

Joint Vision 2010

FOCUSED LOGISTICS

A Joint Logistics Roadmap

Joint Deployment & Rapid Distribution

Information Fusion

Joint Theater Logistics Command & Control

Multinational Logistics

Joint Health Services Support

Agile Infrastructure



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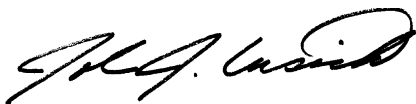
Foreword

The *Focused Logistics Roadmap* charts our course for gaining full spectrum supportability across the range of possible missions envisioned in Joint Vision 2010. It leverages the key enablers of technology innovation and information superiority in linking with the other operational concepts of Dominant Maneuver, Precision Engagement, and Full Dimensional Protection. Together, these concepts for future joint operations represent an integrated approach to achieving **Full Spectrum Dominance** in joint warfighting.

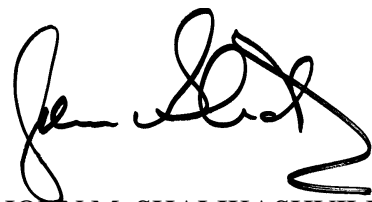
The purpose of this roadmap is to outline key joint initiatives that will lead to the desired future logistics capability. We describe six tenets of Focused Logistics to emphasize a systematic, relational approach in developing full spectrum supportability. These tenets are the framework for designing a logistics template in joint warfighting:

- Joint Theater Logistics C²
- Joint Deployment/ Rapid Distribution
- Information Fusion
- Multinational Logistics
- Joint Health Services
- Agile Infrastructure Support

Given the scope of this effort, the *Focused Logistics Roadmap* is being developed in phases. This Phase I roadmap targets initiatives that are rooted in current realities, but directly tied to enhanced future capabilities. Our emphasis is on resolving near to long term deficiencies identified by the Unified Commands and Services. Through Phase I, we will establish the capabilities required to achieve our 2010 Focused Logistics vision and provide the warfighter both the capability and confidence required to effectively and efficiently succeed on the 2010 battlefield. In Phase II, we will continue to refine our vision and include updates on outyear capabilities via electronic access to the *Focused Logistics Roadmap*. The Phase II roadmap will enhance the direct linkage to the other operational concepts of Joint Vision 2010 as they evolve. As such, the roadmap will remain a “living document” to serve in guiding our efforts for addressing the broad range of logistics challenges in future joint operations.



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Executive Summary

In the foreseeable future, we will continue to be faced with the daunting task of committing U.S. forces on short notice to potentially hostile environments of unknown duration. Unlike Operation Desert Shield/Storm, we will not have the

“The changing threat requires that logistics be flexible, mobile, integrated, compatible, and precise in targeting support to the point of need.” ... OSD Strategic Logistics Plan.

lead-time necessary to develop the “traditional” logistics infrastructure. Our nation’s political leaders will come under continuing pressure to decrease defense expenditures through downsizing yet maintain high states of readiness. Force structure, particularly logistics force structure, will come under close scrutiny as we attempt to generate cost savings/avoidances. Future military operations are likely to find a great many logistics functions privatized or outsourced. The contribution of the Reserve Component will be an important part of our national military strategy. Joint Vision 2010 (JV2010) prescribes an operational template

“The fact that the future is uncertain is no excuse for failing to make adequate preparations.”... USMC Operational Maneuver from the Sea.

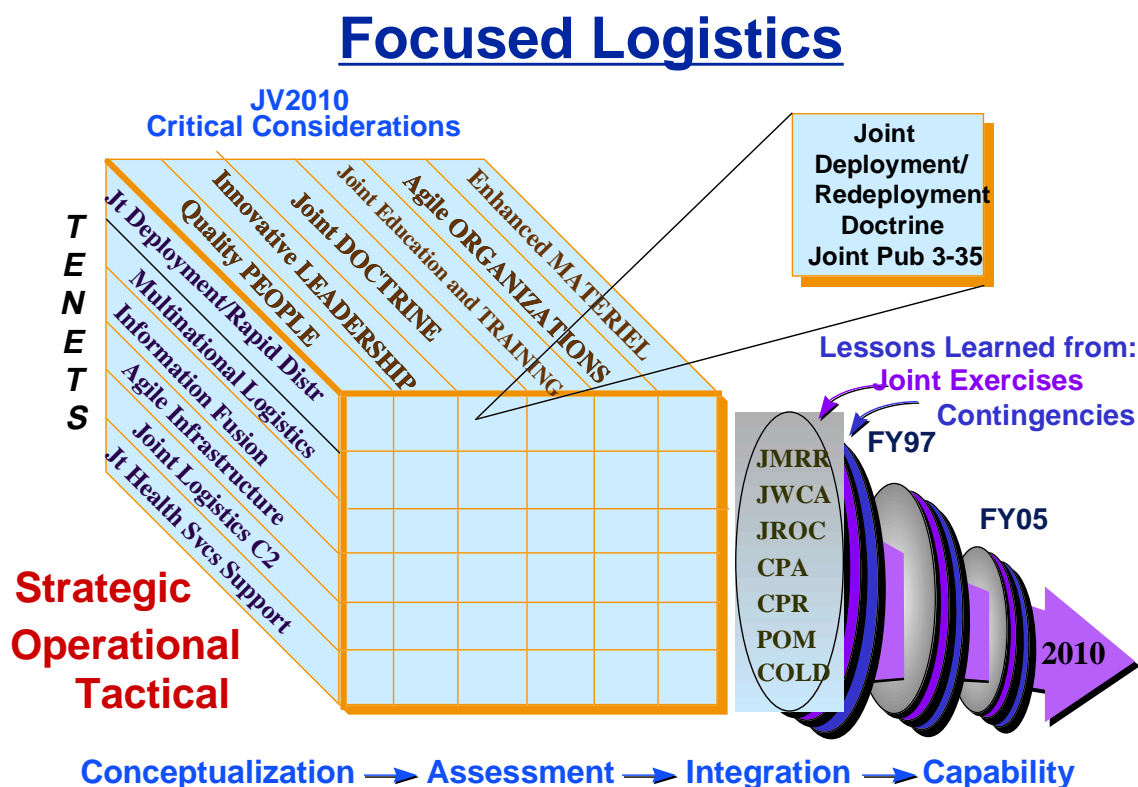
for how we can deal with this dynamic environment.

JV2010 describes Focused Logistics as the fusion of logistics information and transportation

technologies for rapid crisis response; deployment and sustainment; the ability to track and shift units, equipment, and supplies even while en route, and delivery of tailored logistics packages and sustainment directly to the warfighter. The goals of Focused Logistics can be achieved if we concentrate our energies on innovative and efficient processes and products. Focused Logistics will require logisticians to more fully examine the big picture (joint and combined operations) vice maintaining functional and/or Service stovepipes as the other concepts of JV2010 are developed.

JV2010 highlights “six critical considerations” as being essential to the Armed Forces reaching the next level of jointness: Doctrine, Organizations, Training, Materiel, Leadership and People. These same considerations need to be taken into account in our pursuit of Focused Logistics. Failure to simultaneously address each of these key elements is a prescription for failure. Figure 1 also highlights the fact that it is essential that existing processes — i.e., Joint Monthly Readiness Review (JMRR)/Joint Warfighting Capability Assessment (JWCA) and contingency lessons learned — be factored into our efforts to achieve our goals. At the intersection of the tenets of Focused Logistics and the six critical considerations are the various initiatives needed to achieve the Focused Logistics vision.

Figure 1. Focused Logistics and the “Six Critical Considerations of JV2010”



There are a host of possible interpretations of Focused Logistics, but each has a common frame of reference: the imperative of technological advantage; the need for faster, more reliable and integrated logistics systems; and instilling “confidence” in the warfighter that critical supplies will be in the right place, at the right time, and in the right quantity. Logisticians must now demonstrate the capability to tailor forces and resources by both expanding and contracting as the nature of our threats change from large scale Major Theater War (MTW) to Smaller Scale Contingencies (SSCs). Effective execution of these missions requires an adaptive, responsive and reliable logistics system to make it happen.

Logistics systems envisioned by Focused Logistics will include refined techniques for ensuring combat readiness and sustainment. The goal is “full spectrum support” from deployment to redeployment, reconstitution or forward deployment, enhancing both our combat effectiveness and the quality of life of our forces. Logistics organizational structures will be streamlined as we right-size the logistics footprint and make genuine progress in such vital areas as logistics command and control and theater distribution. The days of multiple requisitioning of an item in hopes that at least one will arrive when needed will become a thing of the past. The logistics footprint of the future will be a more precise bal-

ance between “Just in Case” and “Just in Time” with a goal of “Just Enough.” Developments in Automatic Identification Technology (AIT) integrated into automated information systems (AIS) and interface with industry will enhance automated tracking of assets throughout the world. A rapid air, sea, and land transportation system will enable us to reduce logistics response time (LRT) and lead to a streamlined effective, efficient, and economical logistics system. Goals of this magnitude will require a clear understanding and synchronization of a high-level strategy process. Information fusion and transportation technology will enable the warfighter to replace mass with velocity and to have the confidence needed to make it work.

The Focused Logistics vision calls for improved support to the warfighter through increased responsiveness, visibility and accessibility of logistics resources. The desired end state is full spectrum supportability – supporting the warfighter from a source of supply to a point of need whether that be a foxhole, cockpit, deck plate, or base while maximizing the benefits to be gained from information superiority and technological innovation. To achieve that end, the *Focused Logistics Roadmap* draws from OSD, Service, unified command, and Combat Support Agency (CSA) strategic logistics plans.

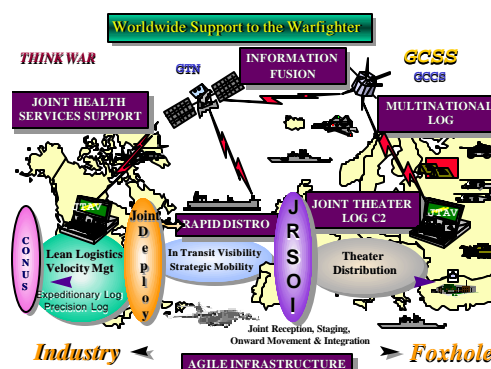


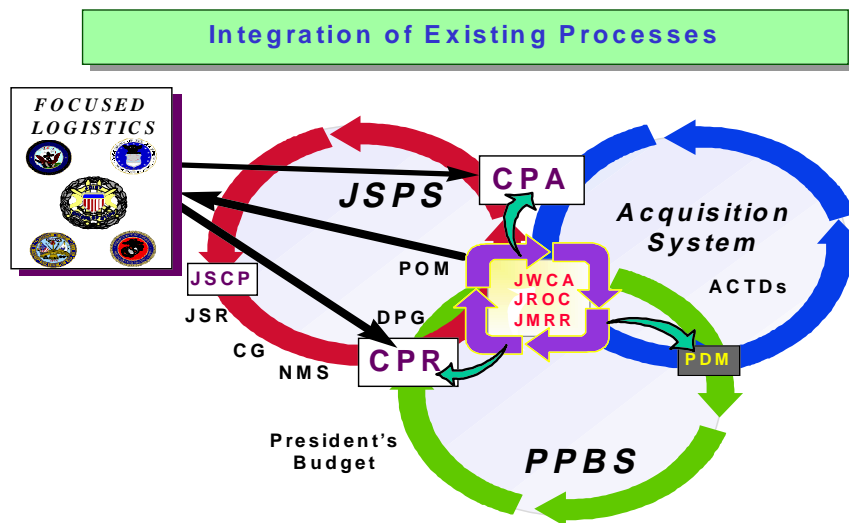
Figure 2. Focused Logistics Vision

The *Focused Logistics Roadmap* is an integral part of high-level strategy. Focused Logistics programs have become high-profile issues within the Chairman’s Program Recommendations and the Chairman’s Program Assessment (CPR/CPA). The CPR/CPA feeds the Defense Planning Guidance (DPG), which in turn provides Program Objective Memorandum (POM) guidelines for the National Military Strategy (NMS). JV2010, and the Quadrennial Defense Review (QDR) served as the overarching structure for developing the *Focused Logistics Roadmap* while the JWCA, JMRR, and Commander in Chief (CINC), and Integrated Priority List (IPLs) provide the baseline issues. Understanding the relationships and interactions involved in the development of these products is key to understanding the role of the roadmap in the overall scheme. These processes and

programs, along with strategic guidance provided by JV2010, provide a unique opportunity for logisticians to have significant influence on defense issues at the highest levels. As we migrate from strategic concerns to operational ones, our attention turns to the enablers of JV2010, information superiority and technology.

“Doctrine does not predict the future, but sets in motion that which will produce conditions for success”...U.S. Army Force XXI.

Figure 3. Process Integration



Technology is a critical component of Focused Logistics. It will pave the way to logistics information superiority in evolving, interoperable clusters of capabilities mapped to user requirements. Information interoperability is essential to providing one common picture of the extended battlefield. Focused Logistics necessitates the development of intelligent and intuitive decision support planning tools that will permit logistics forces to be “proactive” as opposed to reactive to the needs of the warfighter. Increased emphasis on precision in our logistics processes will have the effect of producing more capable forces when and where they are needed—a force multiplier. Moreover, it will bridge the gap between logistics and operations to truly achieve one common picture of the extended battlefield for the warfighter. These technological innovations have implications for joint doctrine.

Doctrine provides the fundamental principles that guide the employment of forces. Toward that end, Joint Publication 4-0, *Doctrine for Logistics Support of Joint Operations*, is under revision with plans to include discussion of Focused Logistics. This action, in and of itself, is an unprecedented event acknowledging

the fact that while doctrine concentrates on extant capabilities that have been validated and tested, we need to address emerging logistics systems and processes. While Joint Publication 4-0 provides overarching guidelines for logistics support, a series of Joint Tactics, Techniques, and Procedures (JTTP) are under development to provide more detailed explanation of processes that will have significant impact on joint logistics operations. The umbrella program of joint logistics publications is designed to integrate new and existing doctrine and technologies with a goal of optimizing support to the warfighter.

Given the scope of the project, we elected to develop Focused Logistics in phases. Phase I targets JV2010 goals by creating a success-oriented roadmap rooted in current realities but tied to enhanced future warfighting capabilities. The focus is on warfighting deficiencies expressed by the CINCs and Services through the Joint Warfighting Capabilities Assessment (JWCA), Joint Monthly Readiness Review (JMRR), and unified command Integrated Priority Lists (IPLs) and their resolution. Phase II will expand on the scope of Phase I and address longer range issues with particular emphasis on “out of the box thinking” and outyear capabilities (2007 and beyond). Both Phase I and II have obvious implications for the future development of Focused Logistics. Phase I provides a solid foundation while Phase II provides direct linkage to the other tenets of JV2010 as they are developed.

Accurate and timely updates to metrics identified in the plan are essential for monitoring progress on key issues. The Joint Staff Logistics Directorate (J-4) will serve as the primary agency for updating Focused Logistics metrics. It is essential that CINCs/Services/CSAs are an integral part of the process. Unified command, Service, and CSA responsibilities include periodic review, update, and recommendations regarding additions or deletions to the roadmap. This is not the end, but the beginning of a long journey toward the development of quality joint logistics principles and practices. The roadmap is a “living document” that will be amended electronically to provide a forum for discussion, coordination, and action to improve joint logistics support.

Our efforts to develop Focused Logistics need to draw on the many talents of the CINCs, Services, and CSAs and must include allies, academia, industry, and established joint logistics forums. Unified Command and Service Directors for Logistics will be routinely queried for comments regarding specific proposals, projects, and status. Service, lead agent, or agency responsible for project development will ensure currency of information provided and advise the Joint Staff Point of Contact (POC) of developments. Finally, it is imperative that we utilize joint exercises and war games to the maximum extent possible, to test and refine our logistics concepts on behalf of the warfighting CINCs.

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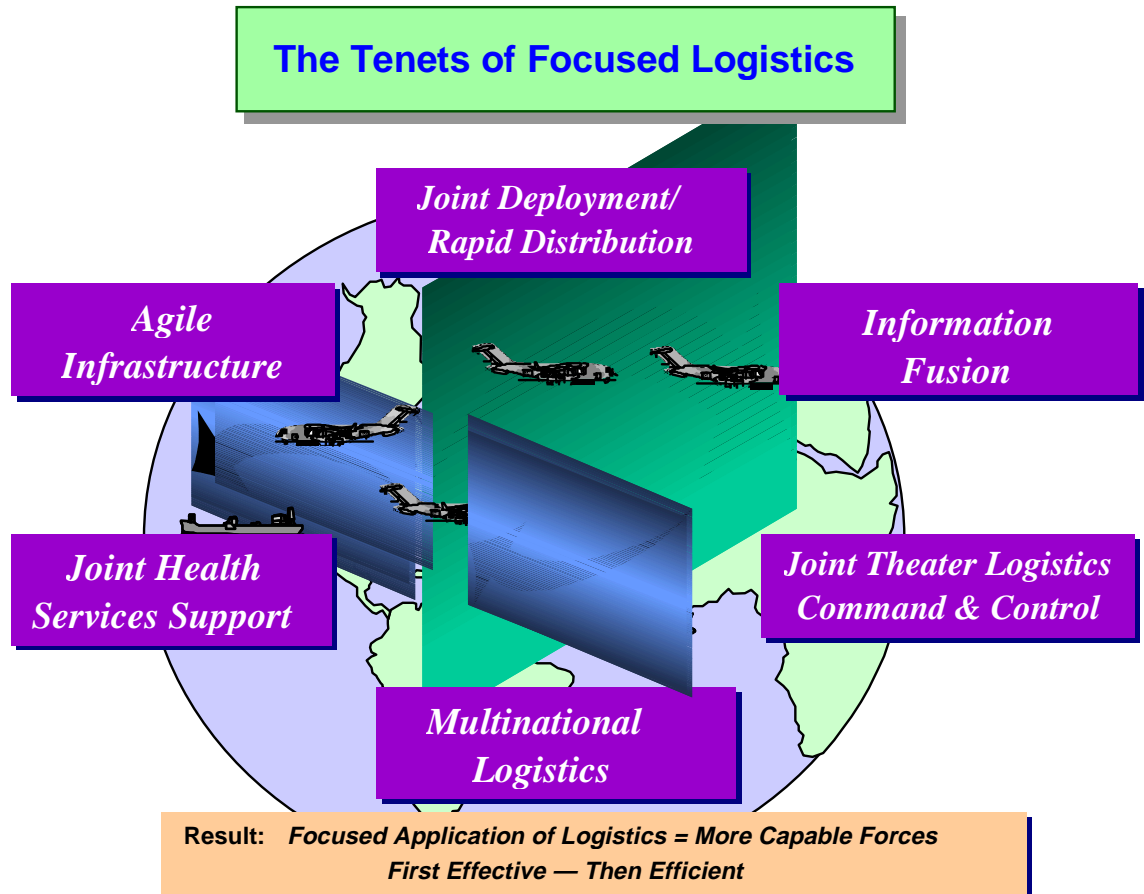
Introduction –The Tenets of Focused Logistics

The Joint Staff, in coordination with the CINCs, Services, and CSAs developed a list of the tenets of Focused Logistics: Joint Deployment/Rapid Distribution, Information Fusion, Joint Theater Logistics Command and Control (Joint Log C²), Multinational Logistics, Joint Health Services Support (JHSS), and Agile Infrastructure. These tenets, working in combination with one another, are designed to provide highly responsive support to the warfighter across any level of warfare, any type of engagement. Focused Logistics provides the full spectrum utility needed to achieve full spectrum dominance – the ultimate goal of Joint Vision 2010.

To achieve that end, we must understand the CINC's perspective of his theater of operations and aggressively pursue process and/or technological innovations to optimize the warfighter's logistics support. The joint logistics challenge is to reduce response times, order and ship times, inventories, and right-size the logistics footprint (including personnel, war reserves, and prepositioned materiel), while increasing support to the warfighter. Rapid transportation and time-definite delivery will supplant large inventories as we accelerate the movement of units, supplies, and equipment anywhere in the world. As we migrate from a supply to a distribution-based sustainment system, we must produce support systems that will be far more visible, reliable, and accessible. Synchronization of logistics support has always been essential to joint operations, but the dynamics of the other operational concepts of JV2010 – Dominant Maneuver, Precision Engagement, and Full Dimension Protection – will make coordinated efforts even more critical to successful mission accomplishment.

The Focused Logistics vision calls for improved support to the warfighter through increased responsiveness, visibility, and accessibility of logistics resources. The desired end state is full spectrum supportability – supporting the warfighter from a source of supply to a point of need whether that be a foxhole, cockpit, deck plate, or base while maximizing the benefits to be gained from information superiority and technological innovation. To achieve that end, *the Focused Logistics Roadmap* draws from Defense, Service, unified command, and CSA strategic logistics plans.

Figure 4. Focused Logistics Tenets



The future warfighting environment requires a continuous interaction among requirements, technology, and capabilities. On the one hand, we need to match technology with known warfighting requirements; on the other hand, leading-edge technology may present opportunities that the warfighter has not even considered. To ensure continuous interaction, we need to narrow the traditional gap between the warfighter of today and the technology of tomorrow through the Joint Warfighting Science and Technology Plan (JWSTP). OSD, Director for Defense Research and Engineering (DDR&E), publishes this plan annually, and it becomes part of the President's Budget to Congress. The plan maps the strategy of JV2010 and the critical elements of the JWCA process to specific Defense Technology Objectives (DTOs). The DTOs are executed through Advanced Concept Technology Demonstrations (ACTDs). ACTDs accelerate the development and demonstration of new capabilities working directly with the customer. The Joint Logistics ACTD (JLACTD) will provide state-of-the-art technology to support our Focused Logistics strategy.

“...take advantage of the explosion in technology now and in the future.” ... CPA 96.

The JLACTION has three phases. Phase I provided an initial suite of decision support tools that were largely developed to support operational requirements for Operation JOINT

ENDEAVOR. While Phase I support will continue to provide early functionality to limited users in 1997, the thrust of the ACTION effort will transition to Phase II (Joint Decision Support Tools). Phase II will:

- Broaden the scope of requirements to include all joint users.
- Ensure any new decision support tools will operate in the Global Combat Support System (GCSS) Common Operating Environment and be available to joint users through the GCSS intranet-like capability.
- Use actual data captured by AIT and other sources.

Phase III (Real Time Focused Logistics) will merge the successes of earlier phases with other ACTIONS focused on operations, planning, and communications and other initiatives such as Defense Advanced Research Projects Agency's (DARPA's) Advanced Logistics Program (ALP). As the capstone effort, Phase III will demonstrate the capability to:

- Capture, see, and use current, accurate, and timely source data.
- Support logistics processes from vendor to foxhole, ship, and flightline.
- Plan/forecast and prioritize logistics requirements based on a robust suite of joint decision support tools.
- Conduct timely modeling and simulations in support of actual operations based on actual data.

“The rate of technological change has accelerated and the nation's future force must keep pace to maintain its military edge.” ...USAF Global Engagement, A Vision for the 21st century Air Force.

To oversee the JLACTION, a new management structure has been established that emphasizes teamwork among a host of key players: the DARPA, the Defense Information Systems Agency (DISA), the Deputy Under Secretary of Defense for Logistics [DUSD(L)], the Deputy Under Secretary of Defense for Advanced Technol-

ogy [DUSD(AT)], the Joint Staff J-4, and most important, the user community to include Services, Agencies, and CINCs. DARPA will provide the technology infusion and the coordination with a host of other technology initiatives that have logistics implications. For example, DARPA's ALP is already exploring opportu-

nities to converge operations and logistics information systems as an operational plan is executed. DISA contributes technical infrastructure and the technical roadmap for our logistics information systems to follow. DISA will provide communication links, a common operating environment to support virtually any computer, and an “intranet-like” capability to significantly increase access to information.

JOINT DEPLOYMENT/RAPID DISTRIBUTION

... the process of moving multi-Service forces to an operational area coupled with the accelerated delivery of logistics resources through improved transportation and information networks providing the warfighter with vastly improved visibility and accessibility of assets from source of supply to point of need.

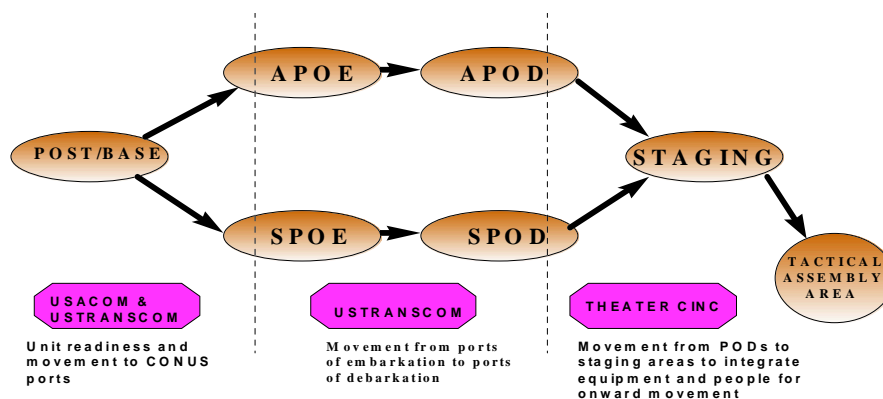
The Chairman of the Joint Chiefs of Staff clearly stated the overarching goal for this transportation tenet with his challenge, “We must be the world’s premier deployer.” An important milestone in integrating deployment into a joint process was the creation of the Deployment Process Special Action Group (DPSAG). DPSAG’s progress in identifying improvements will be permanently embodied in a new division in the Joint Staff’s Logistics Directorate. The new division will facilitate the integration of the Services’ and CINCs’ plans to improve the joint deployment process. Organizational agility will be gained by coordinating cross-organizational matrix working groups focusing on customer-identified priority improvements. DPSAG’s CINC working groups placed a top priority on developing joint deployment/redeployment doctrine as a starting point to improving the joint deployment process.

Deployment/Redeployment

The key to operational success is our ability to rapidly move our combat power to a supported CINC’s theater, ready for mission execution. The October 1996 Joint Doctrine Working Party (JDWP) approved the development of a new publication for the Joint Deployment System (JDS), Joint Publication 3-35, *Joint Deployment/Redeployment Doctrine*. The publication will provide doctrine for planning and executing joint force deployments and redeployments. U.S. Transportation Command (USTRANSCOM) is the lead agent for the development of Joint Publication 3-35 and the Joint Staff J-4 is the functional sponsor. The “3-series” designation recognizes deployment as the first obstacle to effective combat operations, bringing increased attention to the deployment phase by both the logistics and operations communities.

Figure 5. Deployment Process

Deployment Flow Responsibilities and Seams



This chart extracted from DSB Study on Strategic Mobility, August 1996 .

Joint Publication 3-35 will provide deployment and redeployment guidance and principles to Joint Force Commanders, their staffs, and the Joint Planning and Execution Community (JPEC). It will define responsibilities and command relationships for supported and supporting commanders and Services, as well as their interaction with Defense Agencies. The publication will address the following areas:

- Description of the joint deployment and redeployment process to include the phases of predeployment, deployment, and redeployment.
- Responsibilities of commanders during each phase of the process, for both sourcing commands and force transporters.
- Command and control of deploying forces, to include command relationships.
- Summary of tasking documents used by the supported and supporting commanders during each phase of the deployment, to include the methodology for identifying and managing requirements and shortfalls.
- Deployment and redeployment priorities for forces, sustainment, and infrastructure.

Building a joint doctrinal foundation is key to pointing the way forward to establishing joint deployment training standards and curriculum to educate the deployment community. USTRANSCOM is taking the initial steps as executive agent for a joint deployment training center concept to advance the integration of deployment training.

The end state envisioned for strategic airlift and sealift assets to support a single Major Theater War (MTW) is based on the findings of the Mobility Requirements Study Bottom-Up Review Update (MRS BURU). At the farthest reaches of envisioned future threat environments, this single MTW set of lift assets is the minimum required for a moderate risk transportation solution. The continuing trend to commit forces to peacekeeping and humanitarian involvement requires transportation workloads not accounted for in MRS BURU and is an additional dynamic challenge. Continuing close scrutiny of the transportation system enablers from en route infrastructure to materiel handling equipment will be required.

Strategic Airlift

In 2010 and beyond, strategic air mobility will continue to be a high demand resource in peacetime and contingencies. Increasingly versatile as direct delivery capability expands with the C-17 procurement, airlift will remain essential to power projection, force sustainment, and operations other than war. Airlift and tanker aircraft form the fast component of transportation required to deliver time-critical forces and supplies.

Air Mobility Command (AMC) forecasts the C-141, AMC's current "core" airlift aircraft, will fully retire from active and reserve components by FY06. While the purchase of 120 C-17 aircraft over the next decade replaces the ton-mile cargo-carrying capacity lost by retirement of C-141s, the significant decline in total number of airlift aircraft will require innovation to meet some customer requirements, especially in peacetime. Meanwhile, future reliance on C-5 aircraft for substantial cargo transport capacity is hampered by low aircraft reliability. Initial studies are being conducted to determine the C-5's economic service life and identify the best course of action, including aircraft replacement.

Our current tanker force will take us into the next century. The KC-135 provides the majority of air refueling capability and will serve as the core tanker well past 2010, provided aircraft corrosion does not prematurely end forecasted service life. The Air Force is conducting corrosion studies on the KC-135, and AMC is expected to determine KC-135 service life by FY00. The KC-10, a "swing role" tanker, is capable of simultaneously supporting aircraft deployment and cargo transport with a projected service life to 2043.

The Civil Reserve Air Fleet (CRAF) contributes significantly to our nation's strategic airlift capacity. When fully activated, CRAF provides approximately one-third of total cargo lift capability, half of patient lift, and 90 percent of wartime passenger lift. CRAF will continue as a critical airlift component during large contingency operations for the foreseeable future. JV2010's challenge is to find innovative ways to use more fully the relatively inexpensive

CRAF resource and access the efficiencies of the commercial air carrier industry while retaining the unique capabilities inherent in organic airlift with a direct delivery option.

Overseas basing agreements are increasingly important for strategic mobility as our CONUS-based force relies on airlift's power projection capability. Enroute support bases require host nation approval and airfield infrastructure investment. We need the political will to obtain both. Spending demands for repairing en route support base fuel infrastructure alone exceed \$1 billion over the next 5 years. OSD is examining ways to prioritize the most critical en route infrastructure projects and obtain funding for needed construction.

By 2010, the global air traffic control system is expected to undergo significant change, requiring extensive modification to U.S. military aircraft communication and navigation systems. Growth in air traffic volume is spurring initiatives to manage increasingly congested airspace and improve safety.

Global Air Traffic Management (GATM) technology is needed to comply with proposed changes; aircraft without GATM equipment will be prevented from using heavily traveled air corridors. Exclusion of U.S. strategic mobility aircraft from the world's busiest air routes will increase fuel costs and travel time while decreasing allowable cabin loads and delaying force deployments. GATM elements include data links replacing voice communication, integrated global positioning and flight management systems, and automatic aircraft position reporting instead of radar monitoring. The U.S. military faces major capital investment to acquire GATM equipment through upgrades or replacement of existing systems, yet determining specific requirements is extremely difficult. The exact timeline and extent of air traffic control changes are only partially known, specific equipment required by military aircraft is not defined, and total cost of acquiring GATM technology is still being determined. The Air Force established a GATM Working Group; study results assessing costs/benefits of GATM are expected in 1997.

Actions to reduce our logistics footprint are already documented through the initiatives of the Army's "Velocity Management" and the Air Force's "Lean Logistics." These efforts mandate the continued refinement of the Air Mobility Express concept that takes full advantage of our nation's commercial infrastructure. Express delivery, starting in the first days of a contingency, must pass the payback test of saving more deployment airlift sorties than invested in the express. Sizing the amount of lift required is ongoing. As our confidence in time-definite delivery grows, parallel to the commercial sector's experience since the early 1970s, it will be useful to fully test the concept in a major exercise. The end state capability will have to be robust to varying threats (capable of swinging between military or CRAF aircraft) and tied to a theater delivery system that completes the delivery to the customer's doorstep.

Strategic Sealift

The Large, Medium Speed, Roll-on/Roll-off (LMSR) ship conversion and new construction program is the centerpiece of the current Navy organic strategic sealift program. It will provide 2 million square feet of afloat pre-position capacity and 3 million square feet of surge sealift capacity. The MRS identified the necessity for 5 million square feet of lift in a pre-position and surge role. This resulted in a requirement for 19 LMSRs. To acquire this lift as soon as possible, the first five ships were existing commercial container ships available on the open market and converted to meet military specifications. Fourteen new construction ships will be built, and the Navy FY97-03 Program Objective Memorandum (POM) funds their delivery by FY01.

Successful joint deployment hinges on keeping the LMSR shipbuilding program on schedule. The other piece of surge sealift is completing the acquisition of Ready Reserve Fleet (RRF) Roll-on/Roll-off (RO/RO) ships, or an equivalent capacity. Funds need to be allocated to upgrade existing RRF RO/ROs to increase their overall capacity by approximately 550,000 militarily useful square feet by FY02. USTRANSCOM is evaluating the contributions of National Defense Features (NDF), the Voluntary Intermodal Sealift Agreement (VISA), and the Maritime Security Program (MSP) fleet for surge potential. Once evaluated, integrating the potential commercial intermodal capability into wargaming and exercises is the next step required.

Continuing our progress toward securing commitments to commercial intermodal capacity through VISA is critical. VISA's objective is to provide a contractual arrangement for obtaining phased access to militarily useful U.S. flag commercial dry-cargo sealift capacity and intermodal capability to support DoD contingency requirements in conditions when requisitioning ships would be inappropriate. VISA is the primary commercial sealift mobilization program. Enrollment in VISA consists of all U.S. flag dry-cargo vessels receiving payments such as the Maritime Security Program (MSP) (47 ships) and other U.S. flag carriers that participate in peacetime DoD business. VISA also provides a Joint Planning Advisory Group, consisting of representatives from industry, DoD, and the Maritime Administration (MARAD), that plan implementation of VISA — a blueprint for a future that demands effective joint commercial and military planning.

Joint Logistics Over-the-Shore (JLOTS)

Today, JLOTS capability is unsatisfactory and is only capable of delivering forces through Sea State 2 (SS2 — wave height 1.5 – 3.0 feet, wind 5.0 – 12.7 kts). The end state CINCs require is the capability to operate through SS3 (wave height 3.5 – 5.0 feet, wind 13.7 – 16.4 kts) and to be able to deliver this capability to the theater when port throughput is insufficient. This will enable the CINCs to operate throughout most of their area of operation approximately 75 percent of the time. Presently, the Army and Navy have entered into a Memorandum of Agreement to solve JLOTS SS3 issues by 2005. Additionally, the Joint Staff J-4, has added a General Officer Steering Committee to its JLOTS Board to facilitate Service integration on this critical capability.

Future forces will operate through SS3. With the addition of advanced causeway and crane systems, joint forces will fulfill CINC JLOTS throughput requirements for the most demanding theater. Navy and Army LOTS forces will use their unique watercraft capabilities to support Marine Corps and Army combat forces ashore, executing independent and joint missions for their supported CINC. They will have the capability to operate when chemical agents are present and during periods of reduced visibility.

When large force deployments are required for major conflicts, JLOTS forces will assist in the reception of those forces in most theaters. Theaters with ports having the most advanced capabilities will employ JLOTS forces to augment port reception to handle the surge of our major combat formations and their continuous sustainment. Additionally, JLOTS forces allow the discharge of even the largest ships, regardless of a port's capability to receive them.

Combat in the future may involve smaller, more lethal forces that have more information on their enemy. Flexible, efficient logistics systems will sustain those forces, including support from the coastal littorals. Initial supplies and high- priority cargo will move via air-cushioned landing craft, vertical and short take-off and landing aircraft, and helicopters. JLOTS forces will support these smaller combat forces with mobile logistics, moving munitions, food, water, and fuel along the coastal plain. Sustainment supplies will arrive via utility landing craft and logistics support vessels from ships located over the horizon.

Reaching an interoperable SS3 JLOTS capability requires the merging of scarce research and development funds. Significant steps toward jointness have been achieved through the Army/Navy JLOTS Joint Integrated Process Team. For us to achieve our JLOTS Focused Logistics vision, we will require continued progress in selecting the most promising SS3 technologies that make the best use of our limited funds.

Improving JLOTS by increasing the integration between Service LOTS capabilities is a first step in extending the deployment analysis across the seam between classical strategic lift issues to “in theater” transportation challenges. While the strategic lift requirements issues are well studied and on track programmatically to delivering the minimum capacity required for a moderate risk warfight solution, much progress is required in solving the transportation challenges from the ports of debarkation to final destination. The first-ever Intra-theater Lift Analysis is less than a year old and its attendant work on Joint Reception, Staging, Onward Movement, and Integration (JRSOI) has just began. JRSOI and Theater Distribution initiatives are the key pieces of the Joint Deployment/Rapid Distribution tenet of Focused Logistics.

Joint Reception, Staging, Onward Movement and Integration (JRSOI)

JRSOI is a phase of joint force projection occurring in the operational area. JRSOI is the essential process required to transition-arriving personnel and materiel into forces capable of meeting operational requirements:

- **Reception** is the offloading of personnel and materiel from strategic or operational transport at a point of debarkation for relocation to designated areas.
- **Staging** is the organizing and preparing for movement of personnel and materiel at designated areas to incrementally build forces capable of meeting the operational commander’s requirements.
- **Onward movement** is the relocating of forces capable of meeting the commander’s operational requirements to the initial point of their mission execution. This may include theater sustainment buildup.
- **Integration** is the synchronized handing off of units into an operational commander’s force ready for mission execution.

JRSOI improvements have tremendous payback provided all components coordinate the process. The challenge is not to tear down processes that have served the individual Services well, but to develop a program that draws on proven competencies. JRSOI is designed to eliminate much of the confusion associated with people and equipment arriving in theater in disorganized pieces and break down the bottlenecks that have historically existed in large-scale joint operations. JRSOI doctrine and procedures, once fully coordinated, articulated and trained, will be a major milestone in accomplishing the next level of jointness whether a large- or small-scale, multi-Service and/or multinational operation. JRSOI should be addressed as an operational mission that accelerates the buildup of combat power in theater. Although JRSOI is only one of many operations that are conducted in the lines of communications (LOC) that link a deployed force

with its base of operation, there is no joint doctrine to guide commanders and staff officers in planning to maximize the throughput of this lifeline. Substantial resources have been committed to enhance our strategic mobility. We must ensure that equal emphasis is placed on improving the capability of theater LOCs to receive and process arriving forces and sustainment.

A common set of procedures delineating the fastest and most effective way to receive the troops, join them with their equipment, support them while organizing, and get them positioned and prepared for further deployment is a necessary first step. The Army is the lead Service, while the Mobility Concepts Agency (MCA) is writing Joint Publication 4-01.8, *Joint Reception, Staging, Onward Movement, and Integration (JRSOI)*. The Joint Staff J-4 is assigned as the Joint Staff Doctrine Sponsor. USTRANSCOM and the Services are designated as technical review authorities. The publication goal is April 1998. Achieving major improvements in JRSOI capability depends on reaching agreement on key joint issues and building a set of support tools for JRSOI planners and operators.

The first step is defining the optimum organizational structure. Title 10 of the U.S. Code grants combatant commanders authoritative direction over all aspects of military operation, joint training, and logistics within their area of responsibility (AOR). Joint Publication 4-0 calls for a "single command authority to be responsible for logistics" within a combatant commander's AOR.

There currently is no single organization responsible for planning and operating the theater LOC and conducting JRSOI operations in the AORs of the combatant commands. Because there is no joint functional organization responsible for planning and operating the theater LOC, these tasks normally have been accomplished under the "dominant user" concept. The Army component, usually the largest element of the joint contingency force, is assigned many common user RSOI support tasks, and these are normally handled by a Theater Army Area Command (TAACOM). The U.S. Army Training and Doctrine Command has developed a Theater Support Command (TSC) concept to consolidate many of the functions of the TAACOM and other separately reporting functional Army commands.

Movement control of U.S. resources in the theater LOC is the responsibility of the supported combatant commander. Doctrinally, this function is to be coordinated by the Joint Movement Center (JMC), but it typically is an ad hoc organization created at the initiation of a contingency. Movement control usually is delegated to a component command, under the "most capable Service" concept. The purpose of the JMC is coordination and traffic management accomplished through establishment of policies. To ensure that the combatant commander's movement priorities are executed effectively, a Joint Movement Control Agency (JMCA) has been proposed. The JMCA would be a jointly manned organization bringing together into a single organization all of the Serv-

ice agencies, centers, teams, cells, and offices that have a movement control role in the joint rear area under a single joint commander.

Once effectively organized, more capable planning and execution tools are needed. Planning and executing deployments is supported by the Joint Operations Planning and Execution System (JOPES), but this system has significant limitations that impact on JRSOI operations. It does not contain a sufficient level of detail to represent the flows in the theater LOC. A more detailed theater Time-Phased Force Deployment Data (TPFDD) could provide the supported combatant command with the information it needs to plan and control the execution of RSOI, sustainment, and retrograde operations that simultaneously compete for resources within the theater LOC.

Theater Distribution (TD)

... a comprehensive, distribution system for deployment, sustainment, and redeployment of units, personnel, materiel and equipment to and from designated points of need.

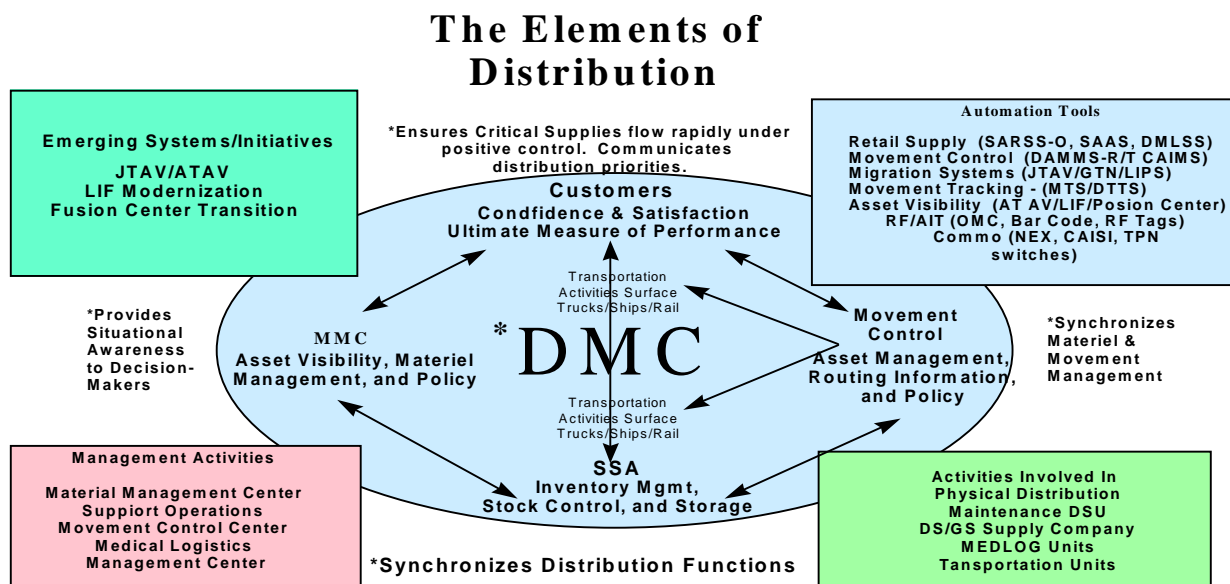
TD is the act of receiving supplies and equipment in a theater of operations and subsequently forwarding that cargo to a designated point of need. TD calls for a comprehensive in-theater distribution system for deployment, sustainment, and redeployment of units, personnel, materiel, and equipment that is seamlessly integrated with the strategic logistics system. Present methods for accomplishing this critical logistics element are fragmented, duplicative, and inefficient. Thousands of containers shipped to Desert Shield/Storm had to be opened to determine their contents. The present system fails to consider the full range of assets in a theater for possible cross-utilization. Consequently, assets were requisitioned several times when the same or like items could have been made available within the theater. The result was delayed in satisfying the requirement, significant additional transportation costs incurred, and possibly delaying the movement of still more cargo causing bottlenecks throughout the entire process.

The TD concept calls for a coordinated approach to movement of property maximizing available transportation assets and personnel to satisfy the most demanding requirements in priority order. The thrust of the initiative is to deliver critical supplies, under positive control, through a highly visible distribution pipeline, from source to combatant. This operational concept identifies battlefield operating requirements and establishes the baseline for the development of doctrine, training, leader development, organizations, material, and personnel support. TD will make use of the best business practices for rapid port clearance and provide time-definite delivery to the supply support activity. The transition from supply to distribution based sustainment reduces the need for layered stockpiles, reduces logistics management personnel in theater, and provides more effective

and responsive support to the warfighter. TD focuses on establishing a distribution management structure and battlefield architecture to maintain visibility and control over the pipeline. The end result of establishing a distribution management structure will be efficiencies gained in transportation and the requisition pipeline, and decreased theater stockage objectives.

The TD concept includes a combat support initiative to improve distribution operations in force projection theaters. TD is a holistic concept that involves organizational restructuring to enhance the functionality of units performing distribution missions, improved doctrine for distribution management, major technology enhancements, and reengineered battlefield operating procedures. The essential characteristics of TD include centralized distribution management encompassing the best commercial business practices, reduction in the layering effect of current supply operations, improved Combat Service Support (CSS) communication flow, near real-time asset visibility, and a modular theater opening force package.

Figure 6. Elements of Distribution



TD capitalizes on technology and commercial business practices to enable CSS operators to maintain total situational awareness. Current technologies include Joint Total Asset Visibility (JTAV), Intransit Visibility (ITV), Automatic Identification Technology (AIT), and Movement Tracking Systems (MTS). TD establishes distribution as a discipline. The concept synchronizes materiel and

movement management at all levels in a theater of operations, ensuring optimal utilization of limited transportation resources.

TD concept development focuses on force projection operations from the initial deployment of units and materiel through the sustainment phase, to retrograde and redeployment. Logistics operations at the strategic level are critical to the successful implementation of TD. Joint Distribution Management Centers (JDMCs) synchronize the various aspects of distribution operations to maintain positive control of units and materiel moving through the CSS pipeline.

The Joint Doctrine Working Group (JDWG) approved the creation of a Joint Tactics, Techniques, and Procedures (JTTP) publication for Theater Distribution, Joint Publication 4-01.9. The U.S. Army Combined Arms Support Command (CASCOM) is the lead agent for the development of this JTTP, with the Joint Staff J-4 acting as the doctrine sponsor. TD “deliverables” include development of joint doctrine prescribing time-definite delivery, a velocity-based supply system, and an information system architecture to provide for the necessary communication and automation to make it happen. The end result of this effort will be the establishment of a designated distribution management structure with efficiencies gained in transportation, theater stockage objectives, and the requisitioning pipeline. In the long term, the integration of emerging technology and sound joint doctrine are essential to the development of a more effective power projection joint force.

INFORMATION FUSION

... the timely and accurate access and integration of logistics data across units and combat support agencies throughout the world providing reliable asset visibility and access to logistics resources in support of the warfighter.

Global Combat Support System (GCSS)

The Global Combat Support System is a critical component of support Command, Control, Communications, Computing and Intelligence for the Warrior (C4IFW). The goal of GCSS is to provide universal access to information and interoperability of that information across Command Support (CS)/CSS and ultimately between support functions and command and control. The GCSS vision encompasses six essential attributes: 1) any box, 2) any user, 3) one net, 4) one

Figure 7. Global Combat Support System



picture, 5) common services, and 6) robust communications infrastructure. “Any box” is the benefit of a Common Operating Environment (COE) to overcome the incompatibility of different operating systems. “Any user” (authorized) refers to the benefit of using common screens on any workstation to reduce the training curve. “One net” refers to the ultimate availability of all warfighter functions from a single workstation. “One picture” refers to the capability to integrate information across functional areas, combat support, and command and control. “Common services” include basic computing requirements such as printer, sound, and communication interfaces within the COE. This reduces the overall systems costs by reducing duplication of basic computing requirements within every information system initiative. Finally, a robust communications infrastructure encompasses all of the networks, pipelines, and hardware necessary to provide global, near real-time access to information. Implementation will follow a centralized direction/ decentralized execution construct. Centralized direction focuses on those issues requiring corporate solutions, to include security, data sharing, and long-haul infrastructure. The Joint Staff J-4, as the functional proponent for GCSS, leads a General/Flag Officer Steering Group composed of representatives from the CINCs, Services, Agencies, and OSD. Decentralized execution refers to Service and Agency planning, programming, and budgeting for specific information systems initiatives, including integration requirements and local and deployed infrastructure.

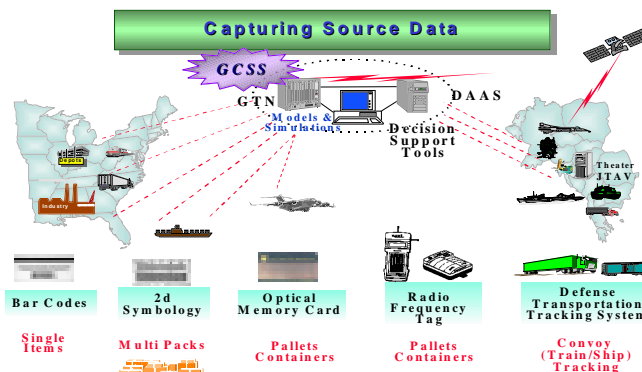
Given the breadth of combat support, we are following an incremental action plan to provide GCSS functionality to the warfighter. Functionality will be grouped into clusters of capabilities (e.g. asset visibility) based on CINC requirements. The goal is to deliver clusters of capabilities, as opposed to the fielding of individual systems.

The end state is a secure, intranet environment allowing DoD users to access shared data and applications, regardless of location, supported by a robust information infrastructure. This will result in 1) near real-time command and control of the logistics pipeline, 2) one fused picture of combat support to the warfighter, and 3) a closed link between command and control and combat support during critical execution of an operation. Given the increasing trend toward coalition operations, third-party logistics will become an integral part of the overall interoperability vision as GCSS matures. A host of logistics information systems enablers are critical to GCSS. Some of the major joint programs include AIT, JTAV, ITV, and Joint Decision Support Tools (JDST).

Automatic Identification Technology (AIT)

AIT ensures the capturing of current and accurate source data for existing and future Service, Agency, and CINC automated information systems (AIS). AIT devices include bar codes for individual items, optical memory cards for multipacks and containers, radio frequency tags for containers and pallets, and a movement tracking capability using satellite links for convoys, trains, and barges. A joint AIT implementation strategy is being developed, including use of standard data formats/media. This will maximize the efficiency of technology options while ensuring effective support of the CINCs' asset visibility requirements. The next requirement is to see, then use the data. Two key initiatives in this area are JTAV and ITV.

Figure 8. Joint Distribution Management Center



Joint Total Asset Visibility (JTAV)

JTAV is the capability to provide users with timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, and supplies. It also includes the capability to act upon that information to improve overall performance of DoD's logistics practices. JTAV includes in-process, in-storage, and in-transit business processes. In-process assets are items that are being either repaired or procured. They include items that are in repair at depot-level repair organizations, both organic and commercial; in repair at intermediate-level repair organizations; or on order from DoD vendors and not yet

shipped. These assets are categorized as either “due in from maintenance” or “due in from procurement” in DoD inventory management systems.

Visibility of items being repaired begins with the turn-in of an unserviceable asset to supply for repair at either an intermediate- or depot-level maintenance facility and it ends when the repaired asset is shipped to a customer or placed in storage. For items being procured, visibility begins when an item manager prepares a request to procure an asset and ends when a DoD Component representative inspects and issues a receipt for the ordered asset.

Moving to in-storage, materiel assets encompass all classes of supply, whether categorized as wholesale or retail. For JTAV purposes, visibility of wholesale assets in storage means information on stock balances by condition code and purpose code, while visibility of materiel requirements means information on reorder points, requisitioning objectives (ROs), and retention limits. Visibility of retail assets consist of stock balances by condition code and assets on order.

JTAV implementation focuses on both a global perspective and a near-term in-theater capability based on an operational prototype deployed in support of Operation Joint Endeavor (OJE). As JTAV evolves, the objective is to minimize duplication of data while optimizing visibility of that data within the GCSS vision by any box, by any user, anywhere in the world. The global perspective includes visibility of the increasing focus on direct vendor delivery operations. The JTAV vision also includes full integration with the Joint Personnel Asset Visibility (JPAV) initiative and comprehensive medical asset visibility initiatives such as the Theater Medical Information Program (TMIP). To address ordnance total asset visibility, DoD established a Corporate Management Information Strategy to develop a common ammunition automated information system. This system, called the Ammunition Management Standard System (AMSS), will provide the warfighter peacetime and wartime ammunition support. Full implementation of JTAV is targeted for FY99; however, complete implementation will depend upon the Final Operating Capability (FOC) of the Global Transportation Network (GTN), AIT implementation, and systems selection to track assets in process, in storage, and in theater. JTAV is the foundation upon which DoD-wide asset visibility and accessibility is based. This requires horizontal integration of the supply and transportation activities and one-time data capture. It also requires using automated information systems all the time, every time. Source data can then be electronically positioned. AIT can be used for nodal update and to provide source data in the event of a communications failure. It can also be used for real-time tracking of units. The end state is a seamless information capability that replaces the traditional division of the logistics pipeline into wholesale, retail, and in theater.

Intransit Visibility (ITV)

While JTAV includes in-process, in-storage, and in-transit functions, the functional proponent for intransit visibility is USTRANSCOM. ITV specifically refers to the ability to track the identity, status, and location of DoD unit and nonunit cargo, passengers, and medical patients from origin to the foxhole, during peace, contingencies, and war.

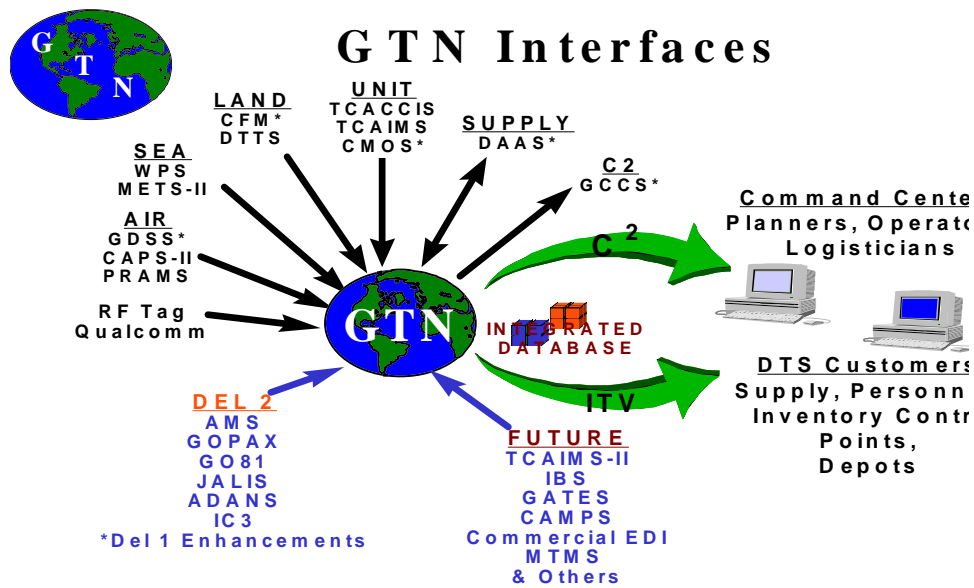
“...information technology must be leverage to improve command and control which is key to timely and accurate decisions.”...Global Engagement, A Vision for the 21st century Air Force.

As the single manager for the Defense Transportation System (DTS), USTRANSCOM has developed the GTN as its command and control automated information system. GTN provides the automated tool for command and control and business operations of the DTS. ITV is a by-product of USTRANSCOM's operations, and GTN provides ITV for all DoD customers.

GTN gathers data from a number of DoD, Services, agencies, and commercial transportation systems to satisfy USTRANSCOM's command and control needs and DoD's ITV needs. GTN will provide the visibility to improve both movement efficiencies and command and control of the transportation pipeline. One of the key systems to provide information is under development—Transportation Coordinator's Automated Information Management System II (TC-AIMS II). TC-AIMS II was selected as the joint migration system to integrate disparate Service-unique, installation-level systems. It will provide actual source data on people, equipment, and sustainment throughout the deployment/ redeployment process as well as the day to day-to-day movement of people and cargo.

GTN achieved Initial Operating Capability in March 1997 and Final Operating Capability is scheduled for January 1999.

Figure 9. Global Transportation Network Interfaces



Joint Decision Support Tools (JDST)

Joint Decision Support Tools will aggregate, categorize, and depict data elements in a format easy to use and understand. Decision-makers at all levels of command and throughout the logistics pipeline need accurate, real-time data to collaboratively plan, prioritize, and redirect logistics operations. Real-time information such as force composition, environment, intensity, and expected duration of operation will be critical to predicting warfighting requirements. These tools will improve Course of Action (COA) analysis, monitoring of execution, and dynamic replanning when execution deviates from planning assumptions.

The Joint Office for Logistics Technology (JOLT) was established to provide these joint tools within the framework of the Joint Logistics Advanced Concepts Technology Demonstration (JL ACTD). JOLT has four primary objectives: 1) ensure joint tools support all of the Services, Agencies, and warfighting CINCs; 2) provide close linkage to DARPA and their initiatives, such as the Advanced Logistics Program (ALP); 3) develop joint tools within the GCSS environment; and 4) continue to support existing joint decision tools already deployed in theaters of operation until Phase II of the ACTD is operational.

To achieve the GCSS vision, along with all its enablers, several challenges (security, infrastructure, and data sharing) must be overcome. Each of these requires a corporate strategy to ensure common solutions. Within security, authentication of users, protection from hackers, and protected connections between classification levels are only a few of the pressing issues.

As for infrastructure, DISA is responsible for long-haul communications, while Services, Agencies, and CINCs are responsible for installation and deployed communications. As GCSS evolves to meet expanding information requirements, robust communications must be available to support the intranet load. Data sharing is the linchpin in today's environment of widely disparate databases already built and still being built. Achieving one picture is a formidable task.

Each of these challenges is being aggressively pursued through a combination of functional and technical solutions. Security alternatives such as Guard, Fortezza Card and Firewall technologies are being developed to prevent unauthorized access. As for infrastructure, DISA has already made significant increases in long-haul bandwidth. Installation and deployed communications must remain a Service, CINC, and Agency priority to ensure vertical and horizontal connectivity.

Finally, a shared data environment is an essential component of DISA's overall technical strategy for GCSS. Also, common approaches to sharing data such as the Global Data Management System (GDMS) are already being used with plans to expand as development progresses.

Information Fusion is not only a primary tenet of Focused Logistics, it also provides the lens to focus all of the other tenets as well. Whether we are supporting a right-sized footprint, rapid distribution, or joint theater C², information fusion will be the vital common denominator.

JOINT THEATER LOGISTICS COMMAND AND CONTROL (JT LOG C²)

... a concept to make clear lines of authority, through a single entity in a joint warfighting environment responsible for logistics support.

Future operations will continue to rely on a strong logistics foundation. In order to reduce the size of the logistical footprint required to support combined operations, take advantage of the developing enabling technologies, and enhance effectiveness, increased centralized command and control is necessary. A Joint Theater Log C² organization could be established to support the in-theater portion of an MTW or SSC. This should be done from a joint perspective in order to prioritize and allocate scarce resources, capitalize on those assets/capabilities that one Service may have in theater that can support the other Services, and to the extent possible, eliminate both unnecessary redundancies and excess capabilities. The availability of critical logistics data via JTAV and GCSS capabilities make this joint logistics management possible. It is important to note that this organization would not assume any of the traditional CINC J-4 functions of plans, policy, or programs. Also, Services retain their Title 10 responsibilities.

Coordinating an effort of this magnitude would require, at its nucleus, a joint Service support organization similar to the Theater Army Area Command. This organization would be an operational logistics support command expandable to a bonafide Joint Support Command working directly for the CINC. Representatives from all the Services would be included in this organization in order to transition it to a joint command. This organization could be expanded by augmentation of battle-rostered reserves from the Services. Additionally, CSA and supporting CINCs' representatives would also be incorporated into the organization.

This C² organization will not have Service logistics forces allocated to it, but rather should be empowered to task for needed capabilities through each of the Service Component Commanders. The Theater Log C² Commander is the joint logistician responsible for integration of all general support missions.

At present, dependent upon the size and complexity of an operation, there may be literally dozens of logistics nodes serving the theater, each reporting to multiple organizations or chains of command. Under the Joint Logistics Command and Control (Jt Log C²) concept, the Services retain their Title 10 responsibilities, but as joint force operations commence, theater distribution and allocation decisions will be handled by an in-theater joint logistics organization comprised of a multi-Service group of senior logistics advisors to the Joint Force

Commander (JFC). Joint Log C² takes the issues of Theater Distribution, JRSOI, Theater Log C², and other logistics enablers and forges them into an integrated logistical concept.

Logisticians ensure that common users and cross-Service logistics functions of the Service operators are synchronized to support the joint force. The Log C² element will be involved in prioritizing limited resources, tasking common user assets, coordinating a common standard among the Services, and developing efficiencies through the consolidation of like functions. Focused Logistics brings together the logistics enablers with Theater Distribution, JRSOI, and other joint concepts. In order for Focused Logistics to achieve its full potential, it must combine the logistics enablers with TD, JRSOI, and other joint concepts. The after-action report from NAVLOG 95 War Game points out the void in our current Joint Log C² structure and further reinforces the need for a different way of controlling logistics support for joint operations.

The theater J-4 plans for logistics support with the assistance of the joint boards and centers. Joint Log C² will benefit from technological innovation and lessons learned from dealing with ad hoc organizations. Joint Publication 4-0 prescribes some specific functions that must be accomplished within the theater and notes that the CINC has authority under crisis conditions, to divert “normal logistics processes” and “use all facilities and supplies assigned to their commands.” This expands CINC authority well beyond just the common user capabilities and encompasses all logistics functions in the theater. Logistics requirements would either be Service-unique, cross-Service, or common user requirements. Common user logistics involves arrangements or agreements that fix responsibility for a Service to provide specified logistical support to another Service or DoD activity in peacetime or wartime and is a continuous responsibility. Logistics directive authority, as specified in Joint Publication 4-0, allows the CINCs to direct cross-Service logistics support where Service components provide resources (materiel and personnel) to support the activities and missions of another Service component. A Theater Log C² organization would exist primarily to manage common user requirements. The Joint Staff and the Services are currently evaluating the structure of a single in-theater joint logistics organization whose mission would be to synchronize, prioritize, direct, integrate, and coordinate common user and cross-Service logistics functions.

MULTINATIONAL LOGISTICS

... mutual logistics support relationships between the United States and allied/coalition partners.

Multinational operations will become more common in the future and the sooner we understand this critical area, the more capable we will be of protecting our national interests and that of our allies. Operation Desert Shield/Storm was a prime example of the impact of combined political and military power brought to a fight by a coalition force. While we maintain the unilateral capability to wage decisive campaigns to protect U.S. and multinational security interests, our Armed Forces will most often fight in concert with regional allies and friends. Coalitions can decisively increase combat power and lead to a more rapid and favorable outcome to the conflict. We need to continue improving multinational logistics doctrine and procedures necessary to conduct effective and efficient operations in an international environment. Issues that were previously the purview of a few, need to be understood by all as we deal with different political, religious, ethnic and geographical limitations that they portend.

The desired end state of this tenet of Focused Logistics includes equitable burden sharing among nations, operational efficiency, a reduced multinational footprint, stronger regional contact, and reduction in the costs of international peace operations. The challenge in joint logistics operations, particularly those involving other nations, is to deal with such sensitive issues as integration of effort, defining clear lines of command and control, interoperable logistics communications, visibility, and responsiveness of logistics status. Pooling requirements, using mutual support arrangements, and effective use of contingency contracting are essential to lowering overall support costs and reducing the combined logistics footprint.

“We must find the most cost effective methods for integrating and improving interoperability with Allied and Coalition partners.” ...

It is essential that we enhance multinational warfighting capability through improved logistics procedures, programs, and planning in multinational operations. It is not enough just to be joint when conducting future operations. We must find the most effective methods for integrating and improving interoperability with allied and coalition partners.

Our goal is to improve our own logistics support capabilities by removing barriers that prevent the maximum benefits from being gained during cooperative actions with other nations. Achieving this goal will pave the way for U.S. forces

to readily engage in operations with our most likely allies—anywhere, anytime. We will approach this goal by concentrating on four areas:

- Establish a framework for U.S. involvement in multinational operations.
- Expand bilateral agreements.
- Leverage multinational capabilities.
- Share technology to promote interoperability.

Establish a Framework for U.S. Involvement in Multinational Operations

The first step in this process is the development of a doctrine to provide broad strategic and operational guidance on logistics support of multinational operations. Creating Joint Publication 4-08, *Logistics Support for Multinational Operations* will be the starting point. We must then align our efforts with existing initiatives. This will ensure a common focus with other government agencies. An example of this is the DOS/OSD-sponsored Enhanced International Peacekeeping Capability (EIPC) program, designed to enhance the political commitment, capability, and credibility of selected countries to participate in peacekeeping efforts. We must also emphasize logistics in multinational exercises—war games and simulations that serve to facilitate interoperability by practicing, training, and evaluating national logistics systems in a multinational environment. There is also a common belief that the United States pays for everything, has too many financial controls, and so impedes multinational operational effectiveness. Thus, we must work to remove inhibitors to our effective participation in multinational operations. Finally, we must disseminate information on the multinational approach concept of logistics. To do this, we must reach out to the unified commands and Services, as well as in bilateral and multinational forums, explaining our goals and soliciting support to achieve them.

Expand Bilateral Agreements

Expansion of bilateral agreements such as Acquisition and Cross-Service Agreements (ACSAs) and Host Nation Support (HNS) agreements will increase our logistics reach and flexibility while minimizing duplication of common logistics support. ACSAs further CINC's strategies of cooperative engagement. They promote interoperability, enhance operational readiness, and provide cost-effective mutual support. They provide responsive and flexible support during contingencies, peacekeeping, humanitarian, and disaster relief operations. Overall, they reduce the U.S. logistics footprint. Our existing ACSAs have proved their value many times over. Expanding them to more countries can greatly improve our logistics capabilities. Similarly, HNS agreements are our wartime sup-

port vehicles, which greatly facilitate JRSOI. Like ACSAs in peacetime, they reduce our logistics tail/footprint, as well as free limited U.S. resources for other requirements. Other benefits that HNS agreements provide include promoting host nation “buy-in” to our efforts, serving as buildup enablers, and creating combat force multipliers. Pursuing these additional bilateral agreements will develop confidence and reliance within our forces and our allies toward multinational solutions of common problems.

Leverage Multinational Capabilities

Just as bilateral agreements strengthen defense cooperation between the United States and its allies, improvement of the logistics capabilities of multinational organizations to which we belong multiplies that strength several times over. Strong multinational logistics organizations reduce our logistics costs by preventing duplication of common support. Improving the logistics capability of international organizations such as the United Nations (UN) and the North Atlantic Treaty Organization (NATO) will achieve more efficient and economical use of everyone’s logistics resources. Areas to pursue include continuing the assignment of U.S. military logistics officers in the UN Department of Peace-Keeping Operations (DPKO); participating in UN logistics process improvements, to include procurement reform; asset management; the development of the Brindisi Logistics Base to refurbish equipment; NATO initiatives such as the Multinational Joint Logistics Center concept; and the Pacific Area Senior Officers Logistics Seminar (PASOLS) education initiatives.

Share Technology to Promote Interoperability

The key to succeeding in a coalition crisis environment is interoperability. Multinational interoperability in logistics information management is a significant challenge, but one worth pursuing with great energy. The approach to this pursuit includes sequential steps, but steps that will be repeated many times to obtain the goal of securing maximum operational benefits and fiscal efficiency. It will start with capturing existing business practices. We need to identify existing U.S., allied, and commercial logistics information systems. We must then analyze this information to identify collaboration parameters and define security access levels. We also will prioritize our approach based on returns expected on our investments—to ensure value is added. For example, we can use the DOS/OSD Enhanced International Peacekeeping Capability prioritization to line up our best candidates for integration efforts. Then we integrate the best practices. We either

promote U.S. systems internationally, or adapt to our allies' systems on a case-by-case basis. We can capitalize on funding set aside for just this purpose, such as the EIPC budget, to make interoperability a reality. Finally, but most important, we must establish a perpetual process for interoperability consideration/ development/execution in our future logistics information systems. It must become a rule and not an exception to take a multinational approach in this area.

Contingency Contracting

... is performed in support of a contingency, humanitarian or peacekeeping operations to provide for facilities, supplies, services including maintenance, transportation, and quality of life support.

The trend of world events suggests that U.S. and coalition forces will deploy in joint operations supporting contingencies in theaters without established logistics support structures. Contingency contracting is an effective force multiplier for logistics support to deploying forces that can bridge gaps that may occur before, during, and after sufficient organic support has arrived in a theater of operations, and is particularly valuable where no HNS or ACSA is available. Active forces opening a theater of operations may be supplemented or replaced by contractors in order to make the active military support unit available for another contingency operation that may arise or a Major Theater War.

Contingency contracting is the art and practice of employing contractual tools and concepts for any of a broad range of logistics support—from initial port opening operations to provisioning of supplies and services to sustainment and maintenance of operating forces, bases or capabilities. For contingency operations, acquisition thresholds are increased for simplified acquisition procedures.

Planning should identify and integrate operational requirements and civilian sources of supplies and services. Existing contingency contracts consist of planning for worldwide and country-specific logistics support and execution of the logistics support plans during contingencies. The types of support typically provided by contracted logistics include construction and maintenance of facilities; receiving, storing, issuing, and inventory of supplies; food service; transportation; maintenance; sewage and waste removal; water production; and laundry.

CINCs will ensure that all Services participate in the CINC Acquisition and Contracting Board (previously identified as the CINC Logistics Procurement Support Board) as required by Joint Publication 4-0, *Doctrine for Logistics Support of Joint Operations*. Participation in this board is designed to ensure the most effective and efficient application of contracted resources by all users.

Contingency contracting is an option within the three levels of logistics support for forces deployed in contingency operations. The first option is the active and reserve force structure. Employment considerations are given to the following factors: unit availability, troop ceiling, lift availability, operational costs, and ability to redeploy unit(s) to an MTW. The second option is the use of Host Nation Support. A third option is contract support through local purchase and/or standing contracts, such as the Army Logistics Civil Augmentation Program (LOGCAP) and other Services' similar contracts. Use of contract support, whether of a standing nature or as required, may allow for a reduced military force structure in the area of operations or theater.

JOINT HEALTH SERVICES SUPPORT (JHSS)

Military Health Service System (MHSS)

MHSS is the uniformed health services system that provides health services to our Armed Forces. It is positioned as the nation's benchmark health care delivery system of the 21st century, emphasizing readiness, health promotion, and managed care for all Armed Services personnel. The MHSS is committed to jointly facing the challenges inherent in a new world order and those being brought about by revolutionary changes in health care. The mission of the MHSS includes providing top quality health services whenever needed, in support of military operations and to members of the Armed Forces. As the world's pre-eminent military health services system, we are accountable to the American people for support of national security and the health of military personnel. The MHSS capability of the Armed Forces today is the result of decades of deliberate planning and wise investments in technological advances, organizational structure, training and leader development. Today and in the future the MHSS is committed to readiness for joint operations in a dynamic global environment; provision of top quality, cost-effective health care; development of leaders who excel in a changing world; and innovative applications of new technologies.

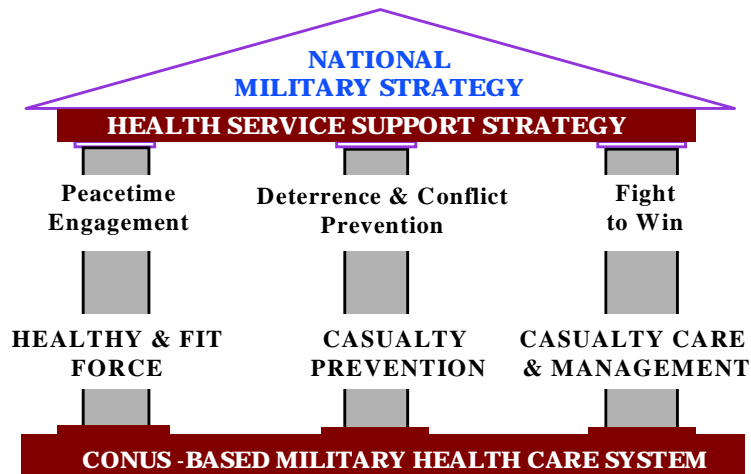
Joint Health Service Support Strategy (JHSS) Vision 2010 – Full Spectrum Health

The revolutionary changes in military affairs demand developing a joint health service support strategy focused on our nation's military strategy. As we changed from global conflict to two MTWs, our national strategy evolved to new strategic concepts based on Overseas Presence and Power Projection, supported by three strategic pillars: Peacetime Engagement, Deterrence and Conflict Prevention, and Fight to Win.

Our past JHSS concept of definitive care in theater — to maximize returns to duty — must be modified to an essential care in theater, enhanced aeromedical evacuation, and definitive care in CONUS concept. This paradigm shift requires developing a new JHSS strategy that maximizes the synergistic effects of the Services medical elements through jointly coordinated, comprehensively planned, and mutually supportive medical operations. The national military strategy components are aligned and supported by respective JHSS pillars; namely, Peacetime Engagement with a Healthy and Fit Force, Deterrence and

Conflict Prevention with Disease and Non-Battle Injury, and Fight to Win with Care and Management of Casualties. Figure 10 shows the relationship between the pillars of the National Military Strategy and Vision 2010 JHSS.

Figure 10. Joint Health Service Support Strategy



Implementing these three pillars of JHSS strategy reduces the demand for strategic lift by 1) delivering upon demand to the warfighting CINCs a healthy, fit and medically ready force; 2) countering the health threat to the deployed force; and 3) providing critical care and management for combat casualties. This comprehensive JHSS strategy supports the National Military Strategy of forward presence and power projection. The position of the warfighting commanders is strengthened through essential care in theater and rapid aeromedical evacuation with enhanced medical capability to CONUS for definitive care without sacrificing quality of care.

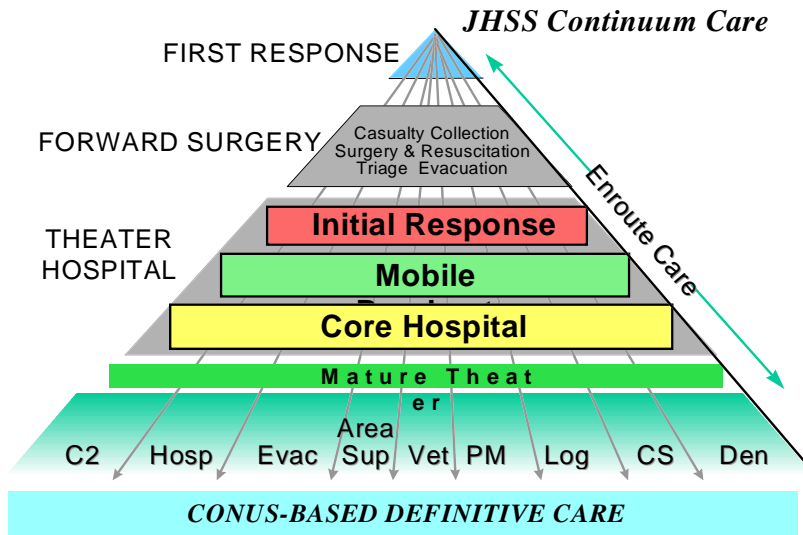
Immediate Focus: Casualty Care and Management

The third component of this strategy is our immediate focus and calls for deploying small, mobile, and capable units to provide essential care in theater. This strategy requires well coordinated and integrated joint use of deployed medical resource—a joint system capable of supporting every medical aspect throughout all phases of every operation. It is flexible, adaptable, and can be tailored to missions ranging from MTW to operations other than war. The major components of this strategy are First Response, Forward Resuscitative Surgery, Theater Hospital, and Enroute Care. Along with technological innovation and lo-

gistics, this is the operational and tactical employment of medical forces in support of the warfighter.

This model illustrates the components and the relational requirements for provision of a comprehensive continuum of care within our JHSS system.

Figure 11. JHSS Continuum Care



Current Initiatives

Two major Joint Requirements Oversight Council (JROC) issues mark our efforts toward realizing JHSS 2010–MAT and Joint Use of Communications Zone (COMMZ) hospitals. These initiatives coupled with the Services/medical reengineering, training, and research and development programs hold great promise for the reduction of the medical footprint without degradation of the quality of care to Service members and other beneficiaries.

The medical analysis tool is the natural evolution of the JOPES Medical Planning Module (MPM). This “calculator” allows the planner a means to develop more definitive medical force requirements. It functions under the Global Command and Control System (GCCS) information system umbrella and combines requirements analysis and capabilities analysis in a single program. The flexibility of this program allows review and analysis of multiple warfighting courses of action and the subsequent medical supportability of each course of action. The ability to more accurately define requirements using Service casualty rates and specific CINC-developed scenarios should contribute to the reduction of

the medical footprint in a theater of operations. The Defense Department should accept the MAT as the standard for operational planning and programming of medical requirements (e.g., beds, medical evacuees, medical resupply, and blood).

The joint use of COMMZ hospitals is more accurately described as eliminating the redundancy of hospital beds in the COMMZ region of a theater. The Services have long practiced the policy of joint use, treating any Service member in any component hospital, and will continue to do so. This initiative focuses on the ability to reduce the Service force structure programs with respect to COMMZ hospitals. Essentially, the Services identify and program hospitals based on the peak or the time period that has the greatest casualty/bed requirement. However, the sum of the four Services' peak is greater than the single point in time for the joint bed requirement in a theater. Therefore, the intent is to develop a method to eliminate this anomaly. To be successful, this initiative must be executed through program guidance to the Services and planning factors found in Annex Q of the Joint Strategic Capabilities Plan (JSCP) used by the CINCs.

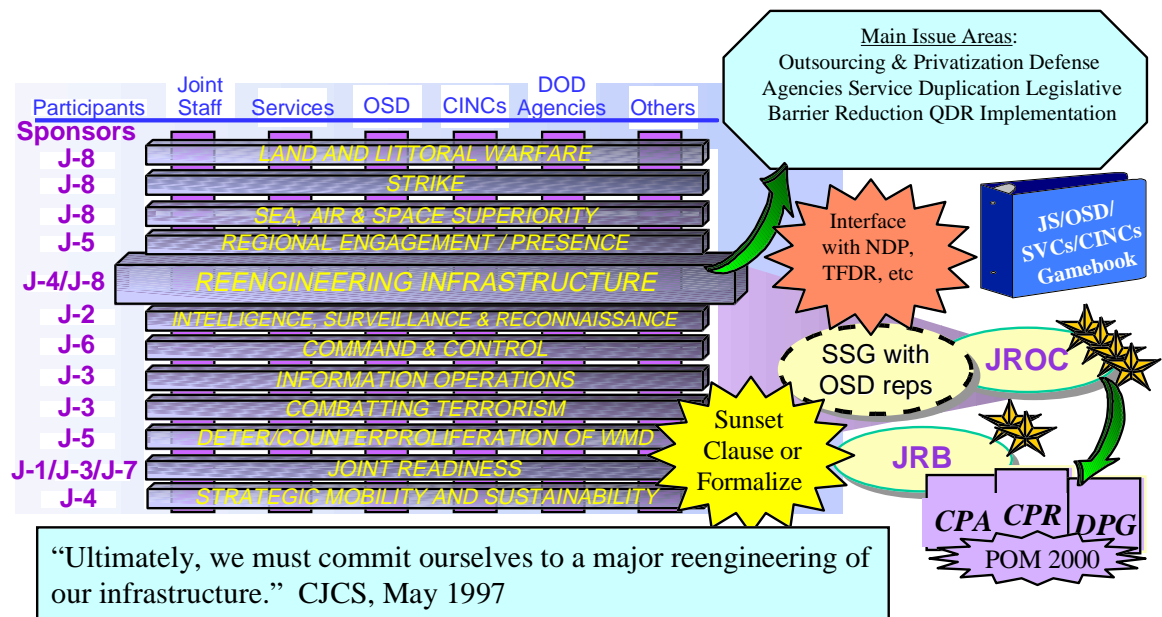
The Defense Department should accept the use of COMMZ hospitals and draft a joint use doctrinal statement in which the Joint Staff, in conjunction with the Services, would use illustrative planning scenarios and Service planning factors to determine joint peak requirements and provide these joint peak requirements to the Services prior to POM submission. The Services would then program to meet their portion of the joint peak requirement. However, we should defer reduction of COMMZ beds until completion of the Weapons of Mass Destruction (WMD) Casualty Study, acceptance of the final 733 Update Study, and implementation of the MAT. Other initiatives continue to be cultivated for maximum benefit within the medical community. The efforts will be monitored until they can be implemented in the evolution to JHSS 2010.

AGILE INFRASTRUCTURE

... will result in right-sizing of the logistics footprint through reductions in logistics forces, facilities, equipment and supplies. These reductions will be enabled through significant enhancements to joint logistics policies, structures and processes in inventory management, engineering, maintenance, and infrastructure improvements.

The QDR emphasized the need to generate savings for enhanced readiness and to support modernization. To that end, the Joint Staff has recently established a Reengineering Infrastructure Joint Warfighting Capability Assessment (JWCA) ribbon to implement the infrastructure-related initiatives identified within the QDR/DPG process and associated Task Force/Panels. The major areas of concentration are outsourcing and privatization, Defense Agencies, Service duplication, legislative barrier reduction, and QDR implementation. The initial target is to influence the FY00-05 POM through the Chairman's Program Assessment (CPA) 97, Chairman's Program Recommendation (CPR) 98, and the DPG.

Figure 12. Reengineering Infrastructure



Outsourcing and Privatization

... Outsourcing is the transfer of a support function previously performed by a government activity to a private service provider... Privatization is a type of outsourcing involving the transfer of government assets to the private sector as the government sheds the capability to perform a function.

The Commission on Roles and Missions (CORM) of the Armed Forces in 1995 encouraged the DoD to pursue outsourcing and privatization to generate savings that could be applied to force modernization. Traditionally, DoD provided most logistics support from within its organic depots, materiel management centers, and base logistics organizations. With reduction of resources and the desire to retain only those core functions necessary to ensure readiness, DoD is expanding its options through increased use of the commercial sector as a logistics provider. Outsourcing and privatization are not pursued as special initiatives, but as integral elements of a comprehensive strategy to introduce greater competition into logistics business areas, to eliminate inefficient duplications between DoD and industry, to take maximum advantage of commercial business practices, to create unrivaled support structures, and thus improve performance and generate savings. These efforts must be in sync with warfighter requirements while seeking greater efficiencies. A review of the A-76 cost comparisons from 1978 – 1994 show an average savings of 31 percent. Services and DoD Agencies will outsource functions using the following Secretary of Defense guidelines:

- The Department will not consider outsourcing activities that generally constitute DoD's core capabilities; that is, activities that DoD and military leaders consider to be essential to being prepared to carry out the Department's warfighting mission.
- A competitive commercial market must exist for the activity being considered for outsourcing that must still meet DoD's warfighting mission needs. Competition is the best way to ensure DoD benefits—it drives organizations to improve quality, reduce costs, and better focus on their customers' needs.
- Outsourcing the activity must result in the best value for the government and, therefore, the U.S. taxpayer. Those activities that can best be performed by the government entities currently doing the job due to a lack of expertise or technological edge, or other cogent reasons, will not be outsourced.

Private-sector support for DoD logistics may be viewed from two perspectives: first, the use of commercial contractors in operations to directly perform support missions in a theater; second, the use of the commercial sector to

perform logistics functions in CONUS that are the underlying basis for weapon system support. Contracted support is an option for commanders when that option ensures readiness and sustainment that is not otherwise available, practical, or economical.

While there are benefits of outsourcing and privatization, there are obstacles and limitations that can impact its execution:

- Legal restrictions apply such that there are limitations or prohibitions on outsourcing, e.g., the depot maintenance 60/40 rule, security guard, and firefighter restrictions.
- The A-76 process to determine public versus private competition is frequently required and can be cumbersome and lengthy.
- There is no standard against which Services base their overall outsourcing assessments or risk determinations.

The Services and the Defense Logistics Agency have a host of initiatives they are pursuing to more fully implement outsourcing and privatization within

“Outsourcing, privatization, and competition offer the prospective of lowering costs and improving performance across a wide range of activities”... *Improving the Combat Edge Through Outsourcing*, DoD Report to Congress, March 1996.

their logistics functions and processes. These initiatives range from contractor support of weapon systems (e.g., Army Paladin Upgrade, Air Force maintenance of F-117, Navy ship overhaul) to direct contractor delivery of supplies (e.g., DLA Prime Vendor and Direct Vendor Delivery programs), to base operating support services (e.g., maintenance, dining halls). Progress is being reported and reviewed by OSD on a recurring basis, and oversight is provided by the DUSD(L), and senior logisticians of each Service and DLA.

Commercial Business Practices

... the adoption, within DoD, of the best business practices of the commercial market place, resulting in continuously improving logistics operations, cost savings/avoidance, and process cycle time reductions.

Focused Logistics draws on expertise from organizations internal and external to DoD. Of particular note is the work done by the Defense Logistics Agency. The Prime Vendor concept, an expanded form of direct vendor delivery, features direct delivery from a designated vendor who can ship a broad array of items for a particular commodity to the customer within 24 to 48 hours after re-

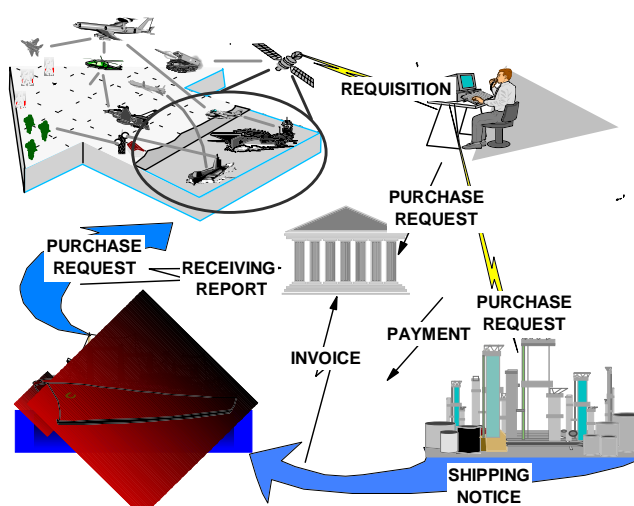
ceiving an order. Prime Vendor was initially established for subsistence and medical commodities. Both programs more effectively and efficiently support customers while reducing inventories at DLA Distribution Depots and at the customer's own sites. DLA is now focusing on expanding the use of Prime Vendor for other commodities such as commercially available equipment and vehicle parts. Borrowing from the best business practices in private industry, DLA has implemented its groundbreaking "Premium Service" for high-value critical items for which there are infrequent but urgent requirements worldwide. Operated from a central location, collocated with an express airfield, the Premium Service initiative is customer driven and is based on proven commercial practices.

In consonance with the Information Fusion tenet of Focused Logistics, Electronic Commerce (EC), Electronic Data Interchange (EDI), and AIT have played major roles in reinventing logistics business practices.

Successful adoption of commercial business practices have resulted in reduced inventories, improved productivity, and most important, improved readiness. Each of these outcomes has a direct bearing on the objective of Focused Logistics. Fully embracing such best commercial business practices as Activity Based Costing (ABC), Activity Based Management (ABM), and other total quality initiatives, will further enhance both our understanding of overall business operations and our ability to improve "cradle to grave" support.

Figure 13. Electronic Commerce and Data Interchange

Electronic Commerce/Electronic Data Interchange



Civil Engineering Support

... provides the permanent and temporary facilities infrastructure necessary to project and sustain forces—facilities, host nation or organic support, and contingency contracting.

Civil engineering support provides the infrastructure necessary to deploy and sustain CONUS-based and forward deployed forces. Facilities may be permanent, fixed facilities or may be temporary in nature, being acquired, constructed or erected when and where needed for specific operations.

Permanent Facilities. Permanent facilities support rapid deployment from home station depots, and provide en route support and support prepositioning of equipment. Services or combat support agencies plan and program permanent facilities. Permanent facilities generally are plan independent and support a number of plans and operations. Construction of permanent facilities may require congressional authorization and appropriation.

Temporary Facilities. Temporary facilities vary with the location and mission requirement and are generally plan dependent. Support at the deployed area must not only be agile, but also swift. Civil engineering support to provide temporary facilities enhances the flow of forces and sustainment when and where needed and must keep pace with changing concepts of operations. The physical footprint must be able to expand and contract quickly. Temporary facilities can include utility systems, assembly areas, base camps, storage facilities, command and control centers, and physical distribution systems such as ports, airstrips, roads, railroads, waterways, and pipelines. Commanders must allocate resources to operate, repair, maintain, and dispose of properly or recover re-locatable facilities at the end of the operation. Although the lead time for temporary facilities is shorter than for permanent facilities, planners must coordinate facility and other engineering support requirements closely with both operational and logistic commanders. The agility of civil engineering support is provided by a combination of the types of facilities and how they are acquired.

Figure 14. Temporary Facilities



Types of Temporary Facility Support. Since temporary facilities are generally plan dependent, advance planning must determine the infrastructure required to support the operation and quantify the existing infrastructure available for use by U.S. forces. Host nations may provide facilities for sole or shared use by U.S. forces including access to utilities. Frequently, the first support during the initial stages for JRSOI is provided by leasing existing facilities. Leased facilities may support intermediate support bases, reception areas, holding areas, staging areas, and beddown. The duration of leases may range from days to years. When facilities provided by the host nation or commerce's leases do not meet the total requirement, additional facilities may be provided by re-locatable beddown sets or expedient construction. Service-owned re-locatable beddown sets provide deployable and easily erectable climate-controlled structures for housing and industrial operations. Commercially available re-locatable structures can supplement Service-owned assets and provide additional capability in a relatively short time to meet a variety of needs. In some cases these commercial re-locatable facilities are available through leasing. While not as easily erected as Harvest Falcon industrial sets, these commercial structures are lighter and more easily erected than traditional wood- or steel-framed structures. If operational conditions permit, or climatic conditions require, more traditional "stick and brick" construction can also provide needed temporary facilities.

Temporary Facility Providers. Support may be provided by U.S. or coalition forces, host nations, or contractors. The host nation may provide facilities, construction services, and access to utilities, thereby reducing support force effort and cost. Contingency contractors can provide a range of engineering and support services. Contractors leverage the local work force and building materiel sources to supplement military engineering services to provide, operate, and maintain facilities and utilities at deployed locations. The contract work force can release military engineering units for other engineering tasks.

Maintenance Operations

... the art and science of planning and conducting operations to keep materiel in a serviceable condition, to return it to service, or to update or upgrade its capabilities.

Maintenance runs the gamut of refurbishment, upgrade, and repair from commercial- and government- operated depot-level maintenance to unit- or operator-level maintenance. While maintaining force readiness will continue to be a Service Title X responsibility, we can expect to find a greatly expanded sense of inter-Service/cross-Service maintenance operations and highly integrated contractor support.

The current DoD structure for maintenance is basically a three-level structure consisting of depot, intermediate, and organizational levels. Each level of maintenance performs an increasingly more complex set of tasks, from simply checking the oil and fluid levels (organizational) to completely overhauling or rebuilding the entire weapon system (depot). All of this maintenance is conducted in an increasingly burdensome infrastructure and intensive environment—people, facilities, and materiel—frequently characterized as excessive. Plans and actions must be taken as we move into the next century to enhance current capabilities and to develop a more business-wise means of doing maintenance.

The Services have many concepts under development as well as force structure redesign for the 21st century. Maintenance and supply operations have been traditionally related as maintenance is completely reliant upon a strong and responsive supply and distribution system to provide requisite repair parts, and to return repairables. Consequently almost any supply and distribution system improvement will be accompanied by an improvement in maintenance operations by lessening the overall repair cycle time. Among these many Service concepts are Lean Logistics, Precision Logistics, Regional Maintenance, Velocity Management, and Two Level Maintenance. Collectively, these concepts are the backbone of future maintenance and will usher in the next quantum improvement to fleet and force maintenance with such improvements as a reduction to basically two levels of maintenance—unit/operator and contractor/depot; a substantially increased contractor presence throughout the spectrum of maintenance and logistics support operations; reduced repair cycle time; lighter and more agile support capability; reduced logistical footprint; highly refined asset visibility; consolidation and regionalization of maintenance operations; cross-Service sharing of capabilities and facilities; depot repair on demand; and more efficiently and fully work-loaded facilities. Technology will play an ever increasing role both in the information and asset visibility arenas. Additionally, improvements in the capabilities of the built-in test equipment and diagnostics capabilities, as well as new tools such as “telemaintenance,” will significantly enhance prognostics resources available to the maintainer.

Changes to existing laws dealing with outsourcing and contractor logistics support concepts will provide greater potential for efficiencies, responsiveness, associated cost saving or avoidance, and further infrastructure reductions: e.g., the requirement to maintain the organic core depot maintenance capability and the 60/40 rule, limiting the efficiencies to be gained from outsourcing and contractor logistics support; limitations on competitive processes such as the extensive A-76 review requirements; the “Arsenal Act” requiring manufacture and purchase from organic sources; and the various Base Realignment and Closure Commission (BRAC)-directed actions. Ultimately, such changes will further enable the Services and Agencies to do more, smarter, faster, and better.

Right-Sized Inventories

... adjusting the size of Service and wholesale inventories to take advantage of improved business practices and information technology, reduce response cycle times, and reduce storage and handling costs while improving overall responsiveness and force readiness.

The changing nature of the threat, technology advances, commercial business practice innovations, and reduced force structure necessitate a reassessment of our current inventory posture. DoD inventory of secondary items is a key area of scrutiny (defined as spare parts to support weapon systems as well as personnel support commodities such as subsistence, medical materiel, and clothing). DoD has aggressively pursued inventory reduction since 1990 and inventory has actually decreased faster than force structure. In constant 1995 dollars, the inventory has gone from \$107 billion in 1989 to \$67 billion in 1996, a 37 percent reduction over 7 years, and is forecast to decrease to \$48 billion in 2003 — a reduction since 1989 of 55 percent.

Aggressive initiatives are being implemented by DoD to accomplish inventory reductions. The guiding principle of the DoD Logistics Plan is that the cost and ‘footprint’ of logistics support must be reduced substantially without reducing readiness. Reducing logistics cycle times is a primary goal of the plan. The Army’s Velocity Management, the Navy’s Expeditionary Logistics, the Air Force’s Lean Logistics, and the Marine Corps’ Precision Logistics efforts are targeted at reducing cycle times and improving responsiveness to user requirements. In a basic measure of responsiveness, the time elapsed between issuance of a customer order and satisfaction of that order—known as logistics response time (LRT)—improved by 15% in 1995. By September 1997, the goal is to reduce LRT by one-third compared to 2 years earlier and thus reduce the need for “just-in-case” stocks.

The JTAV program seeks process improvements designed to maximize use of assets throughout the supply system. To enhance total asset visibility, the Distribution Standard System (DSS) has been implemented at 11 wholesale distribution depots. DSS provides enhanced tools for improving asset accuracy and control, improves the operating efficiency of depots, supports ITV by allowing use of AIT devices, from bar codes to radio frequency tags and optical memory cards, to continuously update the JTAV database. By September 1998, DSS will be deployed in all wholesale distribution depots.

Reliance on commercial logistics support capabilities is a major method for reducing DoD’s inventory. DoD initiatives to increase the use of commercial practices and distribution systems to satisfy materiel requirements include Direct Vendor Delivery and Prime Vendor programs. In those programs, suppliers de-

liver products directly to DoD customers and bypass DoD's warehousing and distribution system, thus reducing storage and transportation requirements. As a result of these programs, DLA's inventory of subsistence items has been reduced by 76%, its cycle time by 93 percent and its operating costs by 31 percent.

In summary, inventory drawdown exceeds force structure reductions. With continued management improvements, ambitious deployment of technological advances, and our expanded use of commercial logistics support capabilities, DoD will continue to make progress in inventory management.

Prepositioning

... is a vital facet of overseas presence and demonstrates U.S. commitment to our allies. Prepositioning also figures prominently into the strategic mobility equation allowing the United States to respond more quickly to a developing crisis and enhancing our ability to deter aggression and war.

Prepositioning has a tremendous impact on supporting a full range of military operations to include MTW, Smaller Scale Contingencies (SSCs) or Military Operations Other Than War (MOOTW). However, continued use of prepositioned assets in support of MOOTW over extended periods of time degrades readiness and adversely impacts their availability for use in an MTW or SSC. For instance, as a result of MOOTW, 60 percent of the Harvest Falcon (bare-base support) sets are unserviceable pending reconstitution. Continuing MOOTW requirements can also be met by contract support, alternative Service stocks, diverted unit equipment, or a combination. Current DoD logistics automation initiatives to record equipment and supplies used in MOOTW will enable Services to correctly capture the usage and readiness impact of MOOTW activity on Combatant Commands. Services must fully analyze the requirement for additional buys of the most heavily used stocks and more effectively and efficiently reconstitute prepositioned stocks used in MOOTW.

Prepositioned equipment remains a cornerstone of our force projection capability and allows us to offset our reduced forward-deployed presence and reduces our strategic lift requirements. Additional force structure reductions will not reduce, and could actually increase, the requirements for prepositioning of materiel. To receive the greatest strategic benefit, the Services and Combatant Commands must continue efforts to refine the process designed to synchronize prepositioning with Operations Plans/Time-Phased Forces Deployment List (OPLANs/TPFDLs). All automated enhancements to this process must be compatible with the on going efforts of GCCS, JTAV and TC-AIMS II.

Secondary Item War Reserves

... mission essential secondary items required to attain operational objectives in the scenarios authorized for sustainment in the Secretary of Defense Planning Guidance.

Secondary item war reserves are a portion of the larger community of war reserves that also includes principal end items and munitions required to attain sustainability objectives in the scenarios authorized for defense planning. Secondary item war reserves may include Classes I, II, III (Packaged), IV, VIII, and IX. A portion of these stocks may be prepositioned afloat or ashore and are used to satisfy the wartime consumption until resupply lines can be established within an area of operations or theater. The ability of the industrial base to accomplish increased wartime production is an important factor in determining war reserves inventory levels.

Each Service is responsible for determining the requirements for secondary item war reserves and programming resources, through the POM process, for procurement of these stocks. In the case of DLA-managed items, the requiring Service must provide funds for procurement of war reserves. Service acquisition strategy must include programming for war reserves, particularly for repair parts.

Currently, investment in war reserve materiel (WRM) secondary items is among the lowest priorities in the POM process, being subordinated to programs having greater readiness impact or sponsorship. With respect to war reserve inventories, defense planning requires Services to 1) acquire and position critical assets to maximize warfighting capability; 2) repair only those assets for which there is a valid requirement; and 3) procure new or additional items to fill demonstrated shortfalls or significantly improve joint force capability or survivability. However, acquisition of these stocks is not currently being achieved within existing Service programming limitations and priorities. The dilemma for the Service components and operational commanders is whether plans for relying on WRM must be constrained by available investment dollars.

War reserve requirements may be offset by industrial base planning, such as financial investment by DoD to guarantee industrial base response and/or access. Similarly, commercial access, rapid transportation, and asset visibility may also mitigate the necessity for war reserve investment. The key to war reserve management is accurate identification of total requirements and investment in critical materials where access may be constrained or lead-time is unsatisfactory to meet operational requirements.

The ultimate goal in this effort is a reliable requirements determination process within each Service, ensuring that Service-unique criteria (e.g., attrition

factors, feeding plans, environmental conditions, etc.) are accommodated. Upon verification of requirements, investment in WRM must be pursued by each Service where the risk to readiness is considered unacceptable. Toward that end, Services have initiated independent reviews and/or verifications of their requirements processes and shortfalls to ensure the validity of requirements for funding consideration. Investment in other pillars of military capabilities such as transportation, asset visibility, industrial base assessment and investment, may reduce risk while mitigating the need to invest in inventory shortfalls. As the resource sponsors for war reserves, Components must be sensitive to CINC concerns when determining the levels of acceptable risk. In summary, the goal is: 1) an accurate requirements determination process; 2) investment in war reserves or other mitigating capabilities; and 3) recognition of risk where shortfalls remain unfunded.

Conclusion

Focused Logistics integrates a host of initiatives designed to improve support to the warfighter. The success of the program will be determined by the extent to which the joint logistics community can pool its resources to make it happen. We need to continue our efforts to accelerate the identification and development of outyear technology with logistics applications and improved business practices designed to make our weapon systems more reliable, our planning more effective, and our logistics systems more responsive.

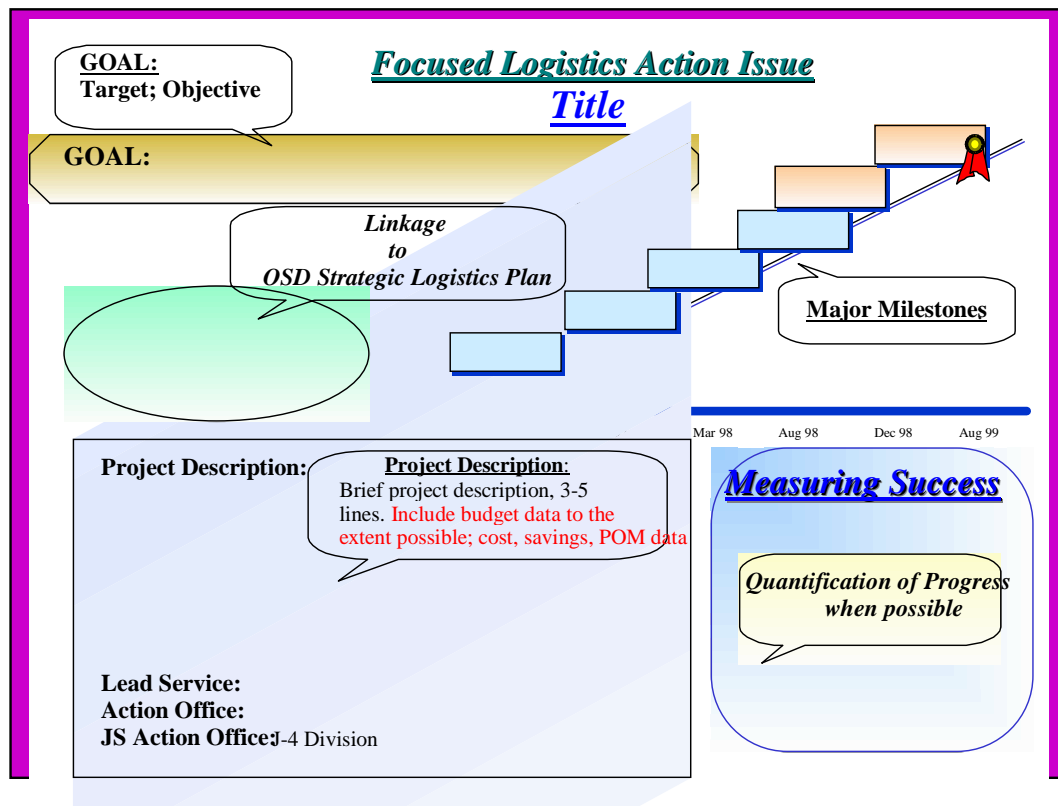
APPENDIX A

Electronic Access to the Focused Logistics Roadmap

Access to the *Focused Logistics Roadmap* can be made through the internet by

<http://www.acq.osd.mil/log/mosaic>

A standardized format has been developed for Focused Logistics metrics and is described below. Details on access to Focused Logistics Metrics will be made under separate cover.



APPENDIX B

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Joint Warfighting Center, Fort Monroe, Virginia

APPENDIX C

Acronyms

ABC	Activity Based Costing
ABM	Activity Based Management
ACSA	Acquisition and Cross-Service Agreements
ACTD	Advanced Concept Technology Demonstration
ADANS	Airlift Deployment Analysis System
AIS	automated information systems
AIT	Automatic Identification Technology
ALP	Advanced Logistics Program
AMC	Air Mobility Command
AMS	Army management structure
AMMS	Ammunition Management Standard System
AOR	area of responsibility
APOD	Aerial Port of Debarkation
APOE	Aerial Port of Embarkation
AT	advanced technology
ATD	Advanced Technology Demonstration
AV	air vehicle
BRAC	Base Realignment and Closure Commission
C2	command and control
C41FW	Command, Control, Communications, Computing, and Intelligence for the Warrior
CAIMS	Conventional Ammunition Integrated Management System

CASCOM	Combined Arms Support Command
CFC	Combined Forces Command
CFM	CONUS freight management
CJCSM	Chairman Joint Chiefs of Staff Memorandum
CINC	Commander in Chief
CMOS	Cargo Management Operations System
COA	Course of Action
COE	Common Operating Environment
COLD	Conference of Logistics Directors
COMMZ	Communications Zone
CONUS	Continental United States
CORM	Commission on Roles and Missions
CPA	Chairman's Program Assessment
CPR	Chairman's Program Recommendations
CRAF	Civil Reserve Air Fleet
CSA	Combat Support Agency
CS	combat support
CSS	combat service support
DAAS	Defense Automatic Addressing System
DARPA	Defense Advanced Research Projects Agency
DDR&E	Director for Defense Research and Engineering
DII	Defense Information Infrastructure
DISA	Defense Information Systems Agency
DLA	Defense Logistics Agency
DMC	Defense Mission Category

DOS	Days of Supply
DOTMLP	Doctrine, Organization, Training, Material, Leadership, People
DPG	Defense Planning Guidance
DPKO	Department of Peace-Keeping Operations
DPSAG	Deployment Process Special Action Group
DS/GS	direct support/general support
DSB	digital in-band trunk signaling buffer
DSS	Distribution Standard System
DSU	direct support unit
DTO	Defense Technology Objective
DTS	Defense Transportation System
DTTS	Defense Transportation Tracking System
DUSD(AT)	Deputy Under Secretary of Defense for Advanced Technology
DUSD(L)	Deputy Under Secretary of Defense for Logistics
EC	Electronic Commerce
EDI	Electronic Data Interchange
EIPC	Enhanced International Peacekeeping Capability
FFRDC	Federally Funded Research and Development Center
FOC	Final Operating Capability
GATM	Global Air Traffic Management
GCCS	Global Command and Control System
GCSS	Global Combat Support System
GDMS	Global Data Management System
GDSS	Global Decision Support System
GOPAX	Groups Operational Passenger System

GTN	Global Transportation Network
HNS	Host Nation Support
HOSP	Hospital
IBS	Integrated Booking System
ILA	Intratheater Lift Analysis
IPL	Integrated Priority List
ITV	Intransit Visibility
J-4	Logistics Directorate (Joint Staff)
JDMC	Joint Distribution Management Center
JDS	Joint Deployment System
JDST	Joint Decision Support Tools
JDWG	Joint Doctrine Working Group
JDWP	Joint Doctrine Working Party
JFC	Joint Force Commander
JHSS	Joint Health Services Support
JL ACTD	Joint Logistics Advanced Concept Technology Demonstration
JLOTS	Joint Logistics Over-the-Shore
JMC	Joint Movement Center
JMCA	Joint Movement Control Agency
JMRR	Joint Monthly Readiness Review
JOLT	Joint Office for Logistics Technology
JOPES	Joint Operations Planning and Execution System
JPAV	Joint Personnel Asset Visibility
JPEC	Joint Planning and Execution Community
JROC	Joint Requirements Oversight Council

JRSOI	Joint Reception, Staging, Onward Movement, and Integration
JSCP	Joint Strategic Capabilities Plan
JSIMS	Joint Simulation and Modeling System
JSPS	Joint Strategic Planning System
JSR	Joint Strategy Review
Jt	Joint
Jt Pub	Joint Publication
JT LOG C ²	Joint Theater Logistics Command and Control
JTAV	Joint Total Asset Visibility
JTF	Joint Task Force
JTSC	Joint Theater Support Command
JTTC	Joint Transportation CIM Center
JTTP	Joint Tactics, Techniques, and Procedures
JV2010	Joint Vision 2010
JWARS	Joint Warfare Simulation System
JWCA	Joint Warfighting Capability Assessment
JWID	Joint Warfighting Interoperability Demonstration
JWSTP	Joint Warfighting Science and Technology Plan
kts	Knots
LIF	Logistics Information File
LIPS	Logistics Information Processing System
LOG	Logistics
LOG C ²	Logistics Command and Control
LOGCAP	Logistics Civil Augmentation Program
LOTS	Logistics Over-the-Shore

LMSR	Large, Medium Speed, Roll-on-Roll-off
LOC	Lines of Communications
LRC	Lessor Regional Contingencies
LRT	logistics response time
MARAD	Maritime Administration
MCA	Mobility Concepts Agency
MEDLOG	Medical Logistics
METS-II	Military Export Traffic System
MHSS	Military Health Service System
MMC	materiel management center
MOA	Memorandum of Agreement
MOOTW	Military Operations Other Than War
MPM	Medical Planning Module
MRS BURU	Mobility Requirements Study Bottom-Up Review Update
MSP	Maritime Security Program
MTS	Movement Tracking Systems
MTW	Major Theater War
NATO	North Atlantic Treaty Organization
NAVLOG 94	Exercise Navy Logistics 94
NDF	National Defense Features
NEX	Navy Exchange
NLS	National Logistics Study
NMS	National Military Strategy
NSIP	NATO Security Investment Program
O&M	operation and maintenance

ODS	Operation Desert Storm
OJE	Operation Joint Endeavor
OMC	Office of Munitions Control
OPLAN	Operations Plan
OSD	Office of the Secretary for Defense
OS&T	Order and Ship Time
PASOLS	Pacific Area Senior Officers Logistics Seminar
PDM	Program Decision Memorandum
PM	Program Manager
POC	Point of Contact
POM	Program Objective Memorandum
PPBS	Planning, Programming, and Budgeting System
Pub	Publication
QDR	Quadrennial Defense Review
RO	requisitioning objective
RO/RO	Roll-on/Roll-off
RRF	Ready Reserve Fleet
RSOI	Reception, Staging, Onward Movement and Integration
SAAS	Standard Army Ammunition System
SARSS-O	Standard Army Retail Supply System
SHADE	Shared Data Environment
SIPRNET	Secret IP Router Network
SPOD	Sea Port of Debarkation
SPOE	Sea Port of Embarkation
SS2	Sea State 2

SS3	Sea State 3
SSC	Smaller Scale Contingency
STOW	Synthetic Theater of War
SUP	Supply
TAACOM	Theater Army Area Command
TCACCIS	Transportation Coordinator Automated Command and Control Information Center
TC-AIMS II	Transportation Coordinator's Automated Information Management System
TD	Theater Distribution
TDLM	Transportation Data Logic Model
TMIP	Theater Medical Information Program
TPFDD	Time-Phased Force Deployment Data
TPFDL	Time-Phased Force Deployment List
TSC	Theater Support Command
UIC	Unit Identification Code
UJTL	Universal Joint Task List
UNC	United Nations Command
USA	U.S. Army
USMC	U.S. Marine Corps
USN	U.S. Navy
USTRANSCOM	U.S. Transportation Command
VISA	Voluntary Intermodal Sealift Agreement
WMD	Weapons of Mass Destruction
WPS	Worldwide Port System
WRM	war reserve material

APPENDIX D

Focused Logistic Critical Path Actions

